

# amateur radio

JOURNAL OF THE WIRELESS INSTITUTE OF AUSTRALIA



VOL. 47, No. 7

JULY 1979

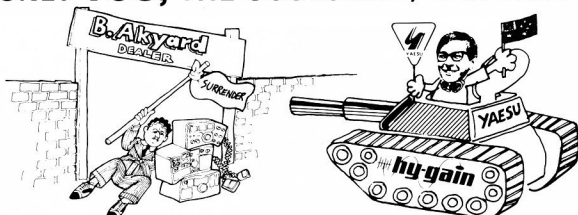
## ***FEATURED IN THIS ISSUE:***

- ★ 25 cm VERTICAL FOR HF MOBILES
- ★ WATCHING SUNSPOTS
- ★ KULROD STORY
- ★ REMEMBRANCE DAY CONTEST 1979 — RULES
- ★ 1979 FEDERAL CONVENTION

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# amateur radio

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## Cover Photo

### A BIT OF NOSTALGIA

With thanks to R. N. Torrington VK3TJ  
for supplying the photo, here is a picture  
of the Zero Beat Radio Club Field Day  
at Lansdowne Bridge, Carramar, NSW,  
1936. Those identified are:

**STANDING:** Basil Dale VK2XX (now  
VK2AXX) 2nd left, Mrs. Stocks 3rd left,  
Noel Smith 4l, Cam Moginie VK2CN 5l,  
Peter Mulligan VK2ABH 6l, Clive Hutchi-  
son VK2YP 8l, Harry Whyteeach 9l, Bob

Fussel VK2SS 10l, John Gue 11l, P. Tor-  
rington VK2TJ 12l.

**SEATED:** Les Stocks 2l, Bill Piggott  
VK2WN 3l, Harry Branson 4l, Andy Kerr  
VK2AX 7l, George Shelley VK2QF 8l, Russ  
Miller 10l. VK2s ABH, YP and AX still hold  
these calls.

Is anyone able to identify any of the  
others?

# WIRELESS INSTITUTE OF AUSTRALIA

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Secretary — Mr. F. Robertson-Mudie VK1NAV

Broadcasts — 3570 kHz and 2m Ch. 6 (or 7): 10.00Z.

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Secretary — Mr. T. I. Mills VK2ZTM

Broadcasts — 1825, 3595, 7146 kHz, 28.32, 52.1, 52.525, 144.1, 145.6, 146.4, Rptr. Ch. 3 — Gosford, Ch. 4 — Lismore, Ch. 5 — Wollongong, Ch. 8 — Dural. Evening 0930Z. Relays on 160, 80 and 10m, VHF and Rptr. Ch. 3, Ch. 5, Ch. 8, and Hunter Branch, Mondays 0930Z on 3595 kHz, 10m, and Ch. 3 and 6. RTTY Sunday 0030Z 7045, 14090 kHz, Ch. 52, 0930Z 3545 kHz, Ch. 52.

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## SA:

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Secretary — Mr. W. M. Wardrop VK5NWM

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Secretary — Mr. Peter Savage VK6NCP

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Broadcasts — 7130 (AM) kHz with relays on 2m Ch. 2 (S), Ch. 8 (N), Ch. 3 (NW), 09.30 EST.

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43 5795 Tues & Thurs 10.00-14.00h).

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VK3 — 412 Brunswick St., Fitzroy, 3065 (Ph. (03)

41 3535 Weekdays 10.00-15.00h).

VK4 — G.P.O. Box 638, Brisbane, 4001.

VK5 — G.P.O. Box 1234, Adelaide, 5001 — HQ at West Thelbarton Rd., Thelbarton.

VK6 — G.P.O. Box N1002, Perth, 6001.

VK7 — P.O. Box 1010, Launceston, 7250.

VK8 — (incl. with VK5), Darwin AR Club, P.O. Box 37317, Winnellie, N.T., 5789.

**Slow wave transmissions** — most week-day evenings from 09.30Z onwards around 3550 kHz.

## VK QSL BUREAU

The following is the official list of VK QSL Bureaux, all are inwards and outwards unless otherwise stated.

VK1 — QSL Officer, G.P.O. Box 46, Canberra, A.C.T. 2600.

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VK3 — Inwards QSL Bureau, Mr. E. Trebilcock, 340 Gillies Street, Thornbury, Vic. 3071.

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VK6 — QSL Bureau, Mr. J. Rumble VK6RU, G.P.O. Box F319, Perth, W.A. 6001.

VK7 — QSL Bureau, G.P.O. Box 371D, Hobart, Tas. 7001.

VK8 — QSL Bureau, C/- VK8HA, P.O. Box 1418, Darwin, N.T. 5794.

VK9, 0 — Federal QSL Bureau, 23 Landale Street, Box Hill, Vic. 3128.

## QSP —

The Federal Convention having been and gone, one must be broad-minded enough to sit back and review the effectiveness of the meeting and whether the members of the WIA and the Amateur Service generally have benefited from the exercise.

A report on the proceedings will come from Executive in due course, and although the policies of the WIA show no radical changes for the year ahead, attitudes of members and the Amateur Service generally, need to be examined to determine if adequate inputs are being received so that meaningful decisions can be made by the Institute.

It has been often and rightly said that the members ARE the Institute. Generally speaking, criticism of the Institute is warranted if it acts contrary to the wishes of members, but there is an increasing feeling that members, individually or acting through their Divisional Councils are unperturbed at the direction their hobby is heading and the potential encroachments in their spectrum.

As a case in point and of topical interest is WARC 79.

Quoting exceptions such as some radio clubs and industry, feed-back from members has, in short, been apathetic.

The meeting details of WARC will be history after September but what of the future? Any new bands will be a bonus — the converse is obvious, yet what contingency plans does the Amateur Service have if it suffers a reduction in its facilities?

One answer lies in improving the amateurs' image — an image currently viewed in many circles as equaling that of CB radio. An examination of current technical licensing standards leaves much to be desired with the "appliance operator" perfectly catered for.

How much better it would be if incentives were given in the form of additional or extended bands in return for an increased standard of technical awareness and expertise!

As President of our newest division I am also concerned that our national image as the official voice of Amateur Radio is not making sufficient and significant impressions.

When the tumult of WARC 79 subsides, Institute policy must be regenerated in the areas of direction and purpose. Improving our lot to obtain increasing credibility and efficiency must be our next priority for the 80s.

ANDREW DAVIS VK1DA  
Divisional President of ACT Division. ■

## THE WIA AND YOU

# WIANEWS

Members will be interested to know that the Minister for P. and T. personally telephoned the Federal President on 25th May to assure him there would be no increase in the amateur licence fees resulting from the mini budget announced in Parliament the previous evening.

## FEDERAL CONVENTION

1979 Federal Convention notes appear in greater detail elsewhere in this issue than could be prepared in time for the June issue of AR. The Federal President comments that many people believe that Federal Conventions are dull and uninteresting. By their very nature these Conventions must handle controversial and other topics of the day in as much unemotional detail and depth as possible to enable solutions to be found which are acceptable throughout Australia and can receive majority support.

Federal Conventions are very much a multiple interchange of views as well as being a forum of common agreement on matters affecting the amateur service in our land.

The Federal Executive in Melbourne has to be made aware of current Federal Council thinking on a wide range of topics if it is to function properly throughout the rest of the year. Conversely, Divisional delegates must be made aware of the multitude of considerations which influence actions at the central focal point of the WIA. Much can be committed to writing but neither the Executive nor the Divisions can function in vacuo as isolated units.

This is what makes the WIA tick. Those who return to their Divisions take back with them an immense background of information to pass on to their Divisional Councils and membership in general. This way dispels local ignorance by enabling Federal Councilors to explain the reasons for particular actions or lack of them. An informed cohesive membership is more than ever necessary in this day and age of national and international pressures, intrigue and political expediences. This is what Federal Conventions are all about and why they appear dull to the spectator. Perhaps there is no word yet coined to replace the word "Convention".

Newcomers to the WIA take note. If you believe some aspect of amateur radio requires changing take it up with your Division. If it is of sufficient moment it will most certainly be presented to the Federal Council, either in Convention or otherwise, for nationwide debate and decision.

## JOINT COMMITTEE

There was a Joint P. and T./WIA Committee meeting on 23rd May, attended for the first time by Mr. Jim Wilkinson, First Asst. Secretary P. and T. Department Radio Frequency Management Division. Michael Owen was a member of the WIA team and, as might be expected, the main topic of discussion was the proposed new legislation to replace the 1905 Wireless Telegraphy Act and its train of Regulations. It is now possible to see how the WIA's view of the amateur service can be made clear to those involved in drafting the proposed legislation in a much better way, perhaps more effectively, than previously thought.

## REGULATIONS AND HANDBOOK

So many of the restraints and restrictions on what amateur operators may or may not do stem from the Regulations. There has been consistent talk at high levels about the need for self regulation of services. The Handbook revised edition has been stopped in mid-stream. Much work has gone into the revision and a lot more is now happening. The constraint, however, is that it must parallel the existing Regulations. All the more reason to do everything possible for the amateur service to make its views properly known in good time for the proposed new legislation. This is being done at the Executive level, well briefed and instructed in Federal Council policies and requirements.

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A new set of terms of reference of Amateur Advisory Committees is to be forwarded to the WIA for comment.

#### AUGUST EXAM

It appears likely that the August AOC examination will give candidates the choice of answering either (i) the existing essay style of format or (ii) a 50 multi-choice question paper. There is at last some hope that the style of the Novice Morse exam has achieved the kind of standard long advocated by the WIA.

#### SIX METRE REPEATERS

The Department agrees in principle to granting approval for some 6 metre repeaters on a trial basis, but these would have to be well outside TV Channel 0 reception areas.

Another item which is now to be allowed by the Department on a 12 month trial basis is the F5 mode on the 32 cm band. Here again, individual applications would receive consideration by the Department.

#### 1979 CALL BOOK BEGINS TO TAKE SHAPE

The Publications Committee has spent much time on the 1979 Call Book. The output of our EDP programme will be incorporated into a tape for direct typeset print-out as opposed to the process used for the 1977 Call Book, which was done direct from the actual computer print-out. Compatibility has been established and every hope is expressed that the final printed version will be good.

Excellent co-operation from the P. and T. Department has ensured that the latest possible call sign information will be no more than about two or three months old by the time it appears in print.

#### OFFICE AND AR

At the May meeting of the Executive a decision was made to approve in principle the publication of a Call Book in 1980. This meeting also approved the appointment of a new member of the Executive office to undertake a wide range of routine work associated with the production of AR, in addition to servicing advertisers and generally learning the work and functions of the office, so as to become an effective assistant to the Secretary-Manager. This post had been the subject of discussions at the Convention brought about through representations that AR had outgrown the continuing efforts of volunteers and unless something was done quite soon the very future of the magazine in its present form could not be guaranteed.

Intensive investigations were carried out prior to the Convention to examine a very wide range of magazine production methods. Details of the outcome of these researches were reported to the Convention in an Executive paper. Federal Council agreed with the proposals that the bulk of the day-to-day drudgery associated with putting together a journal such as AR should become one of the major duties of a new recruit in the office. This had special validity since the expenses involved would not be materially greater than is already expended on salary for an advertising representative, honoraria and allied subjects. The increased volume of work flowing through the Executive office also had relevance to this decision.

Mr. Mark Stephenson VK3NOY, a young man who has displayed great interest in Institute affairs for some time, was appointed to the position with effect from 28th May. It is hoped he will successfully conclude his probationary period and become a valued long-term employee of the Institute.

#### WIA BANNER

The Executive commissioned the production of a large 9 ft. x 3 ft. banner as a display item and this was on show at the Convention with posters and other material. The banner is now available on loan, under certain conditions because of its quite considerable cost, to Divisions for display at major amateur events.

#### WARC 79 DONATIONS LIST No. 3

The Executive wishes to acknowledge with grateful thanks the receipt of the following donations for WARC 79 from members.

VK4NLX	3.82	VK3NNH	10.00
VK3CX	7.00	VK2NDJ	6.00

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MARCH 1979	\$
Dick Smith Electronics	500
Vicom International	1000
Bail Electronics	500
Chirnside Electronics	100
Scalar Industries	50
Elmeasco Instruments	25

These are entitled to the use of the WIA emblem and the words: "WARC Amateur Supporter" in their advertising displays.

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VK2BCU	2.00	St. George ARS	300.00
VK3NFE	3.00	VK3NF	10.00
VK3AJL	4.00	VK2VA	50.00
VK5GU	9.10	VK4TS	11.50
WIA Cen. Qld. Br.		Mackay ARC	50.00
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Liverpool & DARC	50.00	VK5NZ	5.00
VK5UE	1.60	L31066	10.00
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L30357	8.00	VK2MA)	110.00

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## QSP

### JOTA

The date of the 22nd Jamboree on the Air this year is 20th-21st October, 1979, from 0001h on the 20th to 23.59h on the 21st.

One of the biggest single events of the 150th Anniversary celebrations of Western Australia will be the 4th Asia Pacific (12th Australian) Jamboree in Perth from 29th December, 1979, to 7th January, 1980. Up to 1,200 Scouts, local and overseas, are expected to attend. Scout Amateur Radio VK6SH, of Box 7, West Perth 6005, will be the special station for the event.

The Australian Radio Scout Net is held on the first Sunday of each month from 09.30h EST on 7090 kHz ± QRM and then QSYing to 14190 kHz an hour later. The net station is VK4QH. Special Novice classes for Scouts have begun in VK3 by VK3TR, Branch Organiser for JOTA in VK3.

### AMATEUR RADIO — VIDEOCASSETTES

is your Club or Group looking for high class promotional material for amateur radio?

Ask your Division for the loan of videocassettes in colour. Titles available now are:—

"Amateur Radio the Natural resource of every Nation" (6 minutes).

This was specially produced by VK5KG, the Federal Videotape Co-ordinator, for the CCIR Seminar in Sydney.

"This week has 7 days" (25 minutes).

ARRL films (60 minutes in all).

"ATV in Australia 1978" (30 minutes).

"VK5 ATV History" (30 minutes).

"VK5 — official opening of Burley-Griffin Building" (60 minutes).

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Also, a service exists for copying any of these titles (except GSCJ Aerial Circus) on your own cassette — you pay postage both ways.

CLUBS — Why not start your library now, write to your Division or direct to VK5KG.

NOTE — Educational tapes are now being considered but please wait for an announcement in AR.

### NAMES OF COUNTRIES

Want to know the correct official names of countries? The ITU Telecommunication Journal often lists names as officially notified by the Administrations of the countries concerned. In the January 1979 issue the following appear — The Federal and Islamic Republic of the Comoros, The Democratic Socialist Republic of Sri Lanka, The Republic of Suriname. In the March issue we note "People's Revolutionary Republic of Guinea".

### 4U1ITU

There is an ever increasing volume of visitors to Geneva, according to January 1979 Telecommunication Journal's Radio Amateur notes, making it impossible for radio amateurs on the staff of the ITU to meet requests for station operation unless advance notice is given. A licensed radio amateur wishing to operate from 4U1ITU should write to "The Station Manager of 4U1ITU, PO Box 6, Place

des Nations, CH-1211, Geneva 20, Switzerland" so that his letter arrives at least four weeks in advance of the proposed visit. Operators will have to demonstrate their ability to use and tune the 4U1ITU gear because of past damage by operators unfamiliar with the station equipment. All QSL cards from 4U1ITU are made out at the time of the contact and go via national Bureaux; do not ask for a direct QSL.

### USA BAN ON LINEARS 24-35 MHz

QST December 1978 reports on a speech by FCC Commissioner White relating to the FCC ban on the manufacture, importation and marketing of linears capable of operating from 24 to 35 MHz. Commissioner White is reported as saying — "There is no question that there is an increasingly serious problem of TV interference or TVI caused by the use of linear amplifiers operating on or near the 27 MHz CB band . . . I believed that the type-acceptance program was all that was necessary, that a linear ban would not be effective and that to include it was regulatory overkill for cosmetic purposes . . . Finally, I felt the Commission did not adequately explore the proposal from the industry to provide an opportunity for self-regulation through the proof of licence at point of sale. An amateur simply would have to present a valid amateur licence to buy an external amplifier from a retailer. Although there may be some problems with this proposal, such as in the case of

mail orders where licence verification would be difficult, it was certainly a more reasonable and fair approach than the ban."

### MOROKULIEN FOR PHILATELISTS

Morokulien is located on the borders of Norway and Sweden and was founded in 1959, the UN Refugee Year. ARIM — Amateur Radio in Morokulien — operates under the call signs LG5LG/SJ5WL. In the period 1st June to 15th September this year a special envelope will be obtainable carrying both a Norwegian and a Swedish stamp. The price will be \$US2 or 7 IRCs and the address of ARIM is Kongeløsevej 3, N-2200 Kongsvinger, Norway.

### WAC ON 2m

GW4CQT is close to achieving WAC on 144 MHz, having already worked 5 continents on moon-bounce. He lacks only Australia to complete his WAC. G3LTF has already received his WAC moon-bounce certificate for 432 MHz, but nobody has yet achieved this on 144 MHz. Rad. Comms, March 1979. Later news has it that GW4CQT has now worked VK5MC on 2m to complete his WAC on 2.

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# A 25 cm VERTICAL FOR HF MOBILES

Tim Hunt VK3IM

I began operating mobile with a large helical antenna and then heard about increased efficiency from the use of capacitance hats. I kept increasing the size of the capacitance hat and decreasing the length of the antenna; then I went into the theory and I found that it had all been done before, about 35 years ago!

Here are some details of one of my small top-loaded verticals.

The height of the antenna is the length of the coil stock plus an extra inch or two both at the top and at the bottom. With a capacity hat 2½ feet in diameter and having six spokes, the antenna will operate on 3.5 to 28 MHz simply by shifting the position of the alligator clip tap on the coil and re-peaking the 100 pF variable capacitor. My present capacity hat is made from aluminium tubing and covered with aluminium wire netting in order to increase the capacity. I have also made up a 4 foot diameter capacity hat which is sometimes used with a 6 foot vertical on top of the car roof!

With regard to the matching, the capacitor is set at about ¼ capacity and the alligator clip is run up and down the coil until maximum received signals are obtained. Then on transmit the capacitor and tap are carefully juggled until a 1 to 1 SWR is obtained at the desired operating frequency. The bandwidth of the antenna on 3.5 and 7 MHz is about 10 kHz, becoming larger on the higher frequencies. However a re-peak of the variable capacitor will bring it down to acceptable limits over a much wider bandwidth.

There is nothing magical about the 2½ foot diameter associated with the capacity hat. The only "design" considerations were:

- It had to fit in the car when dismantled and
- It shouldn't look too conspicuous.

Within reason, it is always desirable to make the diameter of the hat as large as possible and the vertical section as long as possible — consistent with resonance as a quarter wavelength. The most lossy component in the antenna is the coil and large capacity hats imply small coils.

In order to reduce ground losses, a good earth connection is essential. My

ground connection is a wire soldered to the middle of the car roof! The antenna is located in the middle of the car roof to ensure reasonably uniform radiation in all directions. Mounting the antenna at the front, back or side of the roof gives the antenna strong directivity (and also some power gain in the direction of maximum body area). I have used the antenna on the lawn, making a reasonable ground plane by driving in a ground stake and laying aluminium foil along the ground.

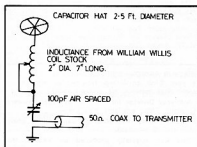
Another consideration is the length of the vertical section. Increasing the length increases the bandwidth, radiation resistance and efficiency (since less power is burned up in coil resistance and ground losses). If the antenna can be made 2, 3 or 4 feet long all the better, but the coil should be kept at the top and aluminium tubing should be used for the bottom section.

The matching method is simple. The antenna is made sufficiently inductive for the magnitude (real part) of the base impedance to be 50 ohms. The inductive reactance is then cancelled out using the series capacitor. (Note: Most of the 50 ohms will be coil and ground losses.—Ed.)

As a rough guide to the performance to be expected when operated against a car body ground plane, a loss of 3 to 5 dB on 14 MHz 5 to 10 dB on 7 MHz, 10 to 20 dB on 3.5 MHz and less than 3 dB on 21 and 28 MHz, is observed when compared with a substantially full size vertical on the same ground plane. If the coil is wound with copper tubing (turns held in place by means of a small polystyrene strip, outside coil), a significant improvement in efficiency can be obtained on the lower frequency bands.

It is possible to be a little more scientific in the design of this antenna:

If the antenna height  $h$  is small compared with the wavelength  $\lambda$ , the radiation resistance  $R$  can be calculated from



$$R = 1600 \left( \frac{h}{\lambda} \right)^2$$

Notice that for a 1 metre vertical on a wavelength of 40 metres,

$$R = 1600(1/40)^2 = 1 \text{ ohm!}$$

and if 100 watts were fed into the antenna, a current

$$I = \sqrt{\frac{P}{R}} = \sqrt{\frac{100}{1}} = 10 \text{ amps}$$

would flow in the inductor. This assumes no loss resistance in the coil but does give some indication of the maximum current to be expected, and reinforces the necessity for a good ground connection and a low loss coil.

We can also calculate fairly exactly the values of inductance and capacitance needed for resonance on each desired band, but since it takes only a second or two to re-position the alligator clip, there isn't too much in favour of the (complicated!) mathematics!

(Reproduced from "Ground Wave", journal of the Darwin Amateur Radio Club, April 1978.)



## MML 144/100 Watt Linear Power Amplifier

- \* 80 watts minimum RMS output 100 watts RMS typical.
- \* Fully protected against poor load VSWR overheating and excessive or reverse supply rails.
- \* Equipped with RF VOX and manual override.
- \* Frequency bandwidth 144 — 148 MHz at — 0.5 dB.
- \* 10 watts nominal for 80 watts output.

PRICE AMATEUR NETT: \$265.00

## MML 432/100 100 Watt 432MHz Linear Power Amplifier

- \* 100 watts minimum output 10 dB minimum gain.
- \* Fully protected against poor load VSWR, overheating and excessive or reverse rail.

- \* Equipped with RF VOX and manual override.
- \* Frequency Bandwidth 435 MHz — 15 MHz @ — 1dB.
- \* 10 watts nominal input for 100 watts output.

PRICE  
AMATEUR NETT:  
\$395.00

## Transverter Model MMT 432/144'S'

UTILIZING an IF of 144MHz \* 10 WATTS DRIVE of 1/2WATT \* VOX OPERATED, TWO SELECTABLE RANGES 432 - 434/434 - 436 Mhz. FEATURES EXTENDED COVERAGE FOR OSCAR 8

FEATURES: High quality double-sided glass fibre printed board \* Highly stable zener controlled oscillator stages \* PIN diode aerial changeover relay with less than 0.2 dB through loss \* extremely low noise receiver converter, typical 3 dB \* Separate receive converter output gives independent receiver facility \* Built-in Automatic RF VOX with override facility \* Built-in 10 watt 144 MHz termination, selectable attenuator for 1/2 watt. \* Use of the latest state of the art Power Amplifier transistors provide reliable 10 watts continuous output.

MODEL MMT 432/144 'S' Price Amateur Nett: \$295



## Transverter Model MMT 432/28'S'

FEATURES EXTENDED COVERAGE FOR OSCAR 8

Second Crystal Oscillator gives two ranges: Low 432 — 434 MHz — High 434 — 436 MHz programming available to either Transmit/receive both Low, both High, or a mixture of the two. Adjustable Drive Level is now provided by an input potentiometer. Optional RF VOX. Power Output 10 watts minimum \* 28 MHz IF \* Drive 1 mW to 500 mW \* Aerial Changeover by PIN diode switch \* Modern Microstrip Techniques \* Power requirements 12 volt nominal at 150 mA 2.5 amp peak \* Case size 187 x 120 x 53 cm \* Spare 432 input socket. MODEL MMT 432/28 'S' Price Amateur Nett: \$245 MODEL MMT 144/28 Price Amateur Nett: \$185

### NEW READY-TO-OPERATE MODULES AVAILABLE IN THE SALES PROGRAM OF VHF COMMUNICATIONS.

All modules are enclosed in black cast-aluminium cases of 13cm by 6cm by 13cm and are fitted with BNC connectors. Input and output impedance is 50 ohms. Completely professional technology, manufacture, and alignment. Extremely suitable for operation via satellite or for normal VHF/UHF communications.

**10 METRE MOSFET CONVERTER:** Input frequency range 28 - 30 MHz \* IF output frequency 144 — 146 MHz \* Overall gain 15 dB min \* Overall noise fig. 1.8 dB \* DC Power requirements 11 — 13.8V at 50 mA. PRICE AMATEUR NETT: \$45.00

**6 METRE MOSFET CONVERTER:** Featuring 24 MHz local oscillator output for transverter use. Input frequency 52-54 MHz. I.F. Output frequency 28-30 MHz. Typical gain 30 dB. Noise figure 2.5 dB. Typical image rejection 65 dB. Crystal Oscillator frequency 24 MHz.

Power requirements 12 volt  $\pm$  25% at 35 mA. MODEL MMC52/28LO PRICE AMATEUR NETT: \$49.00

**2 METER MOSFET CONVERTER:** Noise figure typ. 2.8 dB. Overall gain typ. 30 dB. IF: 28-30 MHz. 9-15 V 20 mA. PRICE AMATEUR NETT: \$45.00

**DUAL RANGE 432 — 434 MHz & 434 — 436 MHz Converter.** Type MMC 432/28 'S' & MMC 432/144 'S' Input frequency ranges 432-434 MHz (low), 434-436 MHz (high). I.F. output frequency 28-30 Mhz or 144/146 Mhz. Typical gain 30 dB. Noise figure 3 dB maximum. D.C. Power requirements 11-13.8 volts, 12.5V nominal. Current consumption 50 mA maximum. PRICE AMATEUR NETT: \$67.00

**1296 MHz CONVERTER:** Microstrip line, Schottky diode mixer. IF: 28 - 30 Mhz or 144-146 Mhz. Noise figure: typ. 8.5 dB. Overall gain 25dB. Power requirements: 12 volts DC  $\pm$  25% at 50 mA. PRICE AMATEUR NETT: \$65.00

**VARIABLE TRIPLEXER 432/1296.** Max. input at 432 MHz. 24 W (FM,CW) — 12 W (AM) Max. output at 1296 MHz. 14 W.

PRICE AMATEUR NETT: \$74.00

**500 Mhz COUNTER 6 DIGIT LED DISPLAY.** Two ranges 0.45-50MHz, sensitivity. Better 50mV. 50-500 MHz, sensitivity better 200mV. Features low angle AT cut quartz crystal, typical temperature stability of 0.5ppm per degree C. Power requirements 11-15 Volts DC at 300 mA approx.

MODEL MMD050/500 PRICE: \$175

**BNC CONNECTORS** — Excellent quality, fully imported from U.K. U.S. Mil. No. UG88E/U. PRICE AMATEUR NETT: \$1.35 each.

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# BI-BAND ANTENNA

This antenna uses the impedance properties of  $\frac{1}{4}$  wave stub lines to present an approximate 300 ohm load to a 300 ohm feedline on two harmonically related bands.

On the lower frequency band the full length of the antenna acts as a half wave

dipole with a "T" match section to the 300 ohm line.

On the higher frequency band the centre section of the antenna acts as a folded dipole which presents 300 ohms to the feedline. The end sections, being each  $\frac{1}{4}$  wavelength long do not introduce un-

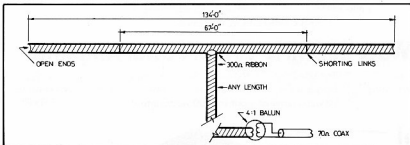
(Reprinted from "Forward Bias", Feb., '78)

Ron May VK1PM

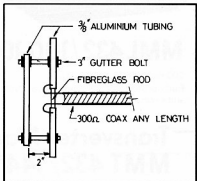
74 Breerton Street, Garra 2505

wanted reactance, but are effectively disconnected from the folded dipole section because of impedance mismatch.

A standard 4:1 balun transformer as shown for example in the "ARRL Antenna Book" at page 103, can be used to feed a 70 ohm coaxial line or connector.



ABOVE — FIGURE 1: 80m and 40m Dipole.



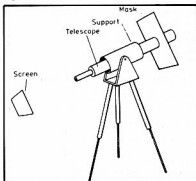
RIGHT — FIGURE 2

## WATCHING SUNSPOTS

G. P. Anderson G2QY

It is apparent from discussion on the air that amateurs are very often unaware of the ease with which spots may be observed on the face of the sun, so providing an added interest to Amateur Radio activities.

But first of all a warning that cannot be repeated too often: never, repeat never, attempt to look at the sun directly through a telescope or field glasses. This rule applies even if a smoked glass or other optical filter is used, as such a device can easily slip and expose the eye to the concentrated full power of the sun, resulting in damage and possibly destruction of the sight.



ABOVE — FIG. 1: General Arrangement

Having said that, the method to be described is perfectly safe, and calls for little equipment. The principle item is a telescope, which can be quite a simple terrestrial model; in the writer's case it is of unknown specification and is at least 100 years old, having been used by his grandfather during service as a ship's engineer in the Far East in the 1860s.

The telescope is set up on a convenient stand, constructed so that the telescope may be moved both vertically and horizontally in order to line it up on the sun (an old camera tripod with a simple mount made to fit to the top is convenient). It is also beneficial to fit a simple mask around the barrel of the telescope — a piece of cardboard about 12 in. square is suitable, in order to minimise the direct sunlight falling on the screen.

Having set up the telescope on its stand (obviously choosing a day when the sun is clearly visible!) point the end with the larger lens — the Objective — at the sun, and holding a piece of white card or plastic near to the eye-piece, move the telescope until an image of the sun appears on the "screen"; with the telescope so aligned move the card away from it until the desired size of image is achieved. During this procedure it will be necessary to adjust the telescope in order to focus a sharp image on the screen.

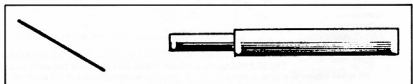
If any sunspots of reasonable size are present they should be readily seen, and their position can be marked on the card;

it will be found advantageous to prepare a circle of suitable size, say 2 in. diameter, on the card before making the observation, so that the locations of the spot may be marked with reasonable accuracy. It is important to keep the card upright — that is, the sides vertical to the ground, so that later observations may be compared, and the progress of spots across the face of the sun followed. When weather conditions permit, daily inspection of the sun is worthwhile, and co-ordination with observations on radio conditions, particularly at the higher frequencies of 21 and 28 MHz will show interesting results.

A note about the screen may be useful. Good quality clean white card or paper is satisfactory, but some experiments with white plastic may be worthwhile, to find a better reflecting surface; the lid of a plastic margarine box has proved very suitable.

One further point: although obviously a true picture of what is happening on the face of the sun is required, and consequently the screen should be set up perpendicular to the axis of the telescope, it has been found to be helpful to move the screen away from this position while inspecting the image, as shown in Fig. 2, especially when projecting on to a plastic surface. The resulting image is of course distorted, but spots stand out much more clearly, as they are enlarged by the distortion.

Reproduced from "The Shortwave Magazine", Vol. XXXVI.



RIGHT: FIG. 2

# AMATEUR RADIO WEEKEND — SPRINGWOOD NSW

The remainder of this year will see two special weekends being set aside for a whole array of radio studies, experiments, and get-togethers for newcomers, students and licensees. The WIA Education Service, incorporating the Youth Radio Service, would like to invite all amateurs, their families and friends as well as all newcomers to the hobby, and everyone studying for their licence to come along to one or all of the following weekends, where crash study classes for the novice and full licence exams will be held as well as on-air and other demonstrations.



PHOTO No. 1

The amateur radio weekends will be held at the Blue Gum Lodge at Springwood, NSW, from 8 p.m. Friday till 2 p.m. Sunday on the weekends of the 27th to 29th July and the 2nd to 4th November, 1979. These weekends correspond to P. and T. exams, which are held a month later, hence are ideal for those needing a brush up for novice and full exams. An additional weekend in the Wagga area is currently being discussed.

Here are some of the highlights of the last weekend which was held at Katoomba, NSW.

## 160 TO 2 METRE AMATEUR STATION (Photo 1)

Various on-air activities were available, including world-wide exchanges. Here you see newcomers being introduced to the art of relaying the WIA news broadcast from 2 metres FM up to the 160 metres AM frequency.

From right to left we have Bruce VK2YIU controlling the 2 metre patch, Steve VK2VFB making technical adjustments on 160 metres under the supervision of Peter VK2PV. John, who is studying for his novice (up from Bathurst), looks on.



PHOTO No. 2

## CONSTRUCTING ELECTRONIC PROJECTS (Photo 2)

Steve VK2VFB shows some of the newcomers how to construct some of the simple projects available at these weekends. These weekends have given Steve valuable experience towards his plans to start up a radio club at his school in Sydney.



PHOTO No. 3

## ROUND TABLE STUDY (Photo 3)

Here is one of the small group study sessions where theory discussion or Morse code practice can be undertaken. Going around the circle, from left to right, we have Sel VK2NOK (one of the weekend organisers), Chris VK2ZPB, Hal VK2NSF and Ken VK2NWK (another of the weekend organisers).

All food and accommodation is provided during these weekends. To book your place write to Box 52, Asquith 2078, or phone Ken on 638 1687; Sel on 827 3589, or Les on 47 3044.

VK2BVS.

# A LETTER OF PROTEST

To Dear Mr. P. and T.,  
Please excuse my typing since my hands shake badly due to a Parkinsons disease affliction.

My reason for writing is to protest the speed increase of amateur RTTY. You see, I am an old CW (A1 to you) operator but no longer able to operate due to the shakes.

The Senior Citizens' League recommended that I take up a hobby to occupy my mind. Dancing was out of the question unless the beat was in sync with my shakes. (I found a record once that sync'd in on a sub-harmonic but the physical exertion put me in bed for ten days.)

Other hobbies have ended up the same way in disaster.

However, in my efforts to discover a hobby, I found that I could copy 60 w.p.m. RTTY in my head and it was in perfect sync with my shakes. The up-shift and down-shift were quite exhausting until I converted the jumping off my chair and re-sitting to a nod of the head. It works beautifully and I have spent many pleasant hours reading the news (60 w.p.m. press) and listening to the Ham band.

I have checked with my Doctor to see if there is a drug available that could increase the speed of my sync. Some of the drugs have possibilities but they are not

legal and that is another story. To date I have only been able to sync in on 60 w.p.m. stations.

I implore you to maintain at least a few 60 w.p.m. stations for old-timers like me. Sure, you can call it progress, but the automobile didn't entirely replace the horse — I can still see a few of them around.

Yours faithfully,

A. S. Shaker.

P.S.: Developed a reper system by installing punches on my teeth. But the added weight caused my uppers to keep falling out and the tape almost choked me so I had to give that away.

From AARTG, No. 12.

# REPEATERS ACCESS IN THE SOUTH

Gareth Davey VK2ANF

29 Wyuna Road, West Pymble 2073.

Early in December 1978, my wife Rosemary VK2NID and I spent an enjoyable week holidaying in Tasmania. We drove from Sydney to Melbourne, flew across to Launceston, and then rented a car as part of a fly/drive package holiday.

Not wanting to lose touch with the world of Amateur Radio, we took portable 2 metre FM equipment with us because of its convenience and widespread use. This information elaborates on the notes made during the trip which should be of interest to amateurs holidaying or travelling in the same areas.

## VK3RNE MT. BIG BEN — Channel 8 (48)

### Hume Highway:

Accessible from north of Holbrook (NSW) through to Euroa (Vic.).

## VK3RGL MT. ANAKIE — Channel 8 (48)

### Hume Highway:

Copiable up to about 60 km out of Melbourne.

## VK7RAA MT. BARROW — Channel 8 (48)

### Tasman Highway:

From Launceston, excellent coverage until about 10 km west of Scottsdale; then only intermittent access (e.g. near Derby and Weldborough Pass).

Good signals from St. Mary's south to the top of Elephants Pass.

### Bass Highway:

From Launceston, good coverage to Deloraine (where we turned south on to the Lake Highway).

### Lake Highway:

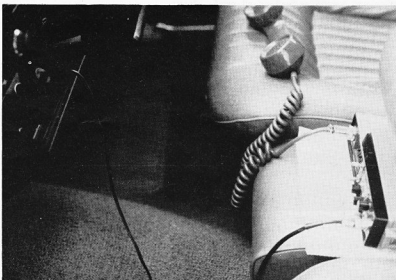
From Deloraine, patchy coverage south. Accessible from the Scenic Point just north of Breona and at most places alongside the Great Lake, which were somewhat elevated (i.e. not near water level).

Good access at the Marlborough Highway intersection (where we turned south-west).

### Hobart City:

From the Mt. Wellington lookout, VK7RAA was easily workable by 1 watt hand-held transceiver (we found VK7RHT being keyed simultaneously due to its physical proximity).

Quite a few base stations in Hobart were able to work into VK7RAA with little difficulty.



Simple mobile operation (good for rented cars), power from cigarette lighter, rig "squashed" under centre armrest.

## VK7RHT MT. WELLINGTON — Channel 2 (42)

### Lake Highway:

Accessible from the Scenic Point just north of Breona by 1 watt hand-held transceiver. Intermittent access south to the Marlborough Highway intersection. (Scratchy but workable signals were heard from a mobile with a similar set-up to ours from just north of Bothwell.)

### Marlborough Highway:

Very intermittent access.

### Tarraleah Highway:

Intermittent access from Bronte to Tarraleah. Good coverage from Tarraleah to Ouse.

### Lyell Highway:

From Hobart, good coverage to Ouse (where we turned on to the Tarraleah Highway).

### Huon Highway:

From Hobart, good coverage to Glen-devie. South of Strathblaine, only very intermittent access was possible.

### Historic Richmond:

From Hobart, good coverage. Workable by 1 watt hand-held transceiver in Richmond.



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## MULTI PALM II 2M/FM POCKET TRANSCIVER



### SPECIFICATIONS

Transceive frequency range 2 MHz in 144-148 MHz, transceive channels & channels antenna impedance 50 ohms unbalanced, BNC connector power requirement 12V DC (negative grounded). Power consumption transmit 300 mA, receive 100 mA stand-by. max. size 68 mm (2.43/64 in.) wide, 154 mm (6.1/16 in.) high, 41.5 mm (1.41/64 in.) deep, weight 470g (1.03 lbs.). Repeater offset -1.60 kHz modulation variable (audio phase modulation). Frequency deviation +5 kHz microphone contester, microphone receiver, double conversion superheterodyne (1st IF, 35.5 MHz, 2nd IF, 455 kHz). Sensitivity -4 dBu NQ (20dB). Audio output maximum 0.3 watts. Attachment: remote antenna, Nicaf battery pack, DC cable with cigarette lighter plug. Carrying strap.

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Arie Bles (VK2AVA) Proprietor

Roy Lopez (VK2BRL) Manager



"AA" creek on the Hume Highway.

#### Hobart City:

Workable by 1 watt hand-held transceiver with rubber-duck antenna inside the car.

#### Arthur Highway:

From Sorell, good coverage up to the approaches to Eaglehawk Neck, then intermittent access into Eaglehawk Neck. Good coverage around Eaglehawk Bay, but only intermittent access further south and to the coast.

Poor coverage in and around Port Arthur.

#### Tasman Highway:

From Hobart, excellent coverage to

about 5 km west of Buckland, where the road curves into the mountainside. Signals were reasonable from Buckland to Triabunna. North of Triabunna, VK7RHT could only occasionally be heard weakly (e.g. at Mayfield and Bichenno).

#### NOTES

— From information received, no 2m FM simplex channels are monitored in VK7, all stations listening to repeater channels instead. Simplex activity is apparently by appointment and pre-arranged on a repeater channel.



"MM" creek, also on the Hume Highway.

— While driving through the mountains on the Tasman Highway near Scottsdale, we heard weak signals which we thought were VK7RAA but instead turned out to be VK3RGL!

— The following repeaters were not in operation during our holidays and hence no mention has been made of them: VK3RML, ch. 2, VK3RMM ch. 5, VK1RG ch. 7, VK2RAW ch. 5.

— It appeared to be common practice in VK3 and VK7 for repeater channels to be called (e.g.) "channel 8" and not "channel 48". I had been warned before leaving Sydney that any reference to "NSW-type repeater channel numbering" in other States would result in severe earbashing from local operators — this was definitely not the case.

#### CONCLUSION

The four repeaters mentioned in detail all worked well and provided excellent coverage over wide areas. Credit must go to the repeater groups themselves.

It is reassuring when driving in unfamiliar territory to know that access to a repeater is possible should there be any need to call for assistance, whether it be an emergency or just simply for directions.

I hope that other amateurs travelling and using these repeaters will find these notes useful. ■

## THE KULROD STORY

Many of you may not be familiar with the name Kulrod, which is Larsen's trademark. I think that its origin might be interesting to you.

Kulrod had its beginnings during the early days of Larsen's experimentation with various types of loading coils, antenna rod lengths, etc., in the investigation of the best means of producing a superior gain antenna for the VHF frequency range. This was about 14 years ago. At that time there were a few gain antennas around but there was serious doubt as to whether they made any improvement over a quarter wave antenna. For that matter, there still is.

I do hope, however, that in the material which I will be presenting, to dispel that idea. Larsen's was fortunate to have a 100 watt transmitter available for testing their early prototypes, improving both their

loading coils and the antenna rod. Their first loading coils became extremely hot at 100 watts — some of them actually burning up. When this difficulty was finally eliminated, they noted that at the 100 watt power level the 17-7 stainless steel rod which they were using became extremely hot at the point of maximum RF current (approximately 18 inches from the top). So hot, in fact, that keying the transmitter for approximately one minute developed so much heat that touching the rod at the point of maximum current after the removal of the transmitting power would literally burn you. They reasoned, and it was subsequently proven to be the case, that the power being used to heat the antenna rod was wasted for communication purposes and that if it could be eliminated, a noticeable improvement in antenna performance might be expected. They were aware of the phenomena as "Skin Effect", which describes the condition of radio currents travelling only on the surface or very near the surface of a conductor.

A little research into the literature revealed that the depth of penetration into the surface of a conductor a 150 MHz was in the order of .00025 inches, or two and one half ten thousands of an inch. It is interesting to note, at this point, that the primary function of the antenna rod is simply to support this extremely thin surface area which does all the work. 17-7-PH stainless steel is probably the most common material used for taper ground antenna rods. It has achieved this high usage due to its high strength, resiliency, and relatively high resistance to corrosion. It does, however, have the undesirable characteristic of extremely high electrical resistance. Its resistance is in the range of 20 to 30 times that of copper, which certainly gives it poor marks in the efficient electrical conductor category.

Armed with this information, Larsen's proceeded to have a rod silver plated. To their great joy, when the rod was placed in a good loading coil and subjected to 100

Jim Larsen W7DZL

President, Larsen Electronics, Inc.,  
11611 N.E. 50th Ave.,  
Vancouver, Washington, USA 98663.

watts of power for a full minute, there was no trace of heat in either the rod or their vastly improved loading coil. To their great joy they also discovered a great improvement in performance as indicated by an approximate 1 to 1.5 dB improvement in field strength when an unplated rod was replaced by a plated rod. The demonstrable improvement of their early antennas over those which were then currently available, allowed them to penetrate what was and is an extremely competitive market.

If you're afraid I'm not going to tell you how the word Kulrod originated, just be patient for a few more minutes. For the first five or six years of Larsen's existence they silver-plated their rods to get the high performance, which they realised had become a necessity. The silver, unfortunately, had a bad tendency to corrode and produce rust spots when used in certain parts of the world; the worst areas were the tropics and those areas in North America where a great amount of salt is used on the streets and roads during winter time.

During this period, they continued to search for a coating material which would provide them with the required electrical efficiency and at the same time be resistant to the corrosion problem. It consists of a sandwich of nickel, copper, nickel, and chrome, applied over the basic rod material in that order. The first coating is known as a nickel flash and provides a base for the copper. A thick layer of copper is then applied; the copper coating is in a way the most important because it contributes to the low resistance characteristic which they need. A coating of nickel is then placed over the copper, a very thin calibrated coating, I might add. Then finally a coating of chrome over the nickel to provide a cosmetic effect. It is extremely important that the last two layers be quite thin; otherwise, the surface resistance of the rod might significantly increase, and they would wind up right where they started.

Prior to the development of this system, they spent a great deal of effort in advertising their silver-plated rods and then found it necessary to make a change.

Larsen's advertising department conceived the name Kulrod, which with its unique spelling was bound to attract attention and at the same time signify the fact that if you have a Kulrod antenna you do in fact have one which will provide you with a cool cool rod. From time to time they receive complaints that their present rods will turn green when exposed to winter road salting conditions. This condition in no way interferes with the electrical performance of the antenna and may be alleviated to a considerable degree by cleaning the salt encrustation off the rod from time to time and by also, at the beginning of the salt season, applying a good auto body wax to the rod. The green colouring is caused by the penetration of the outer plating layers by salt and its

consequent reaction with the copper layer which produces a green coloured salt, probably copper chloride, which appears on the surface.

They could also improve this situation by making the nickel and chrome plating thicker, but this, unfortunately, has the undesirable by-product of increasing the surface resistance of the rod and bringing them right back to the point where they started. Larsen's is still working on the problem and hopes one of these days to have the perfect answer.

Their method of making field strength comparisons might be of interest, in that it is a system which anyone might use with a minimum of equipment to compare various antennas. The particular area which they had available for conducting tests was poor from a classical standpoint; in that when they investigated its use, they found that it was subject to considerable multipath even when illuminated from a standard signal generator using a corner reflector approximately 500 feet away. They reasoned that perhaps this might be a blessing, inasmuch as the situation more closely approximated actual working conditions. Larsen's procedure follows a standard quarter wave antenna. In their early experiments, a Motorola TU-316 quarter wave antenna was installed on a movable ground plane and then moved through a course covering approximately 100 feet. The antenna transmission line was connected to a calibrated receiver and field strength reading taken at 50 intervals throughout the 100 ft. course.

This procedure was repeated for each antenna to be compared. An average was taken of the 50 readings for each antenna and the result used to obtain comparative gain figures. They were pleased to discover that their results have correlated quite well with those obtained by the most elaborate systems. The key, of course, lies in taking a tremendous number of readings and obtaining an average; in this way, obvious slight errors are averaged out. One simple way this system might be used to obtain comparisons in a vehicle would be to connect a remote meter or test set to obtain a first limiter reading under unsaturated signal conditions. Obtain a signal from a repeater or some other source and, while driving down the road on a fixed course, count aloud slowly to 40; at each count an assistant will read the value of the meter reading and jot it down. The readings may either be averaged or simply totalled and the results compared to other antennas which have been tested in exactly the same way. The results may be invalidated in some cases if the signal source is subject to intermittent fading conditions due to transmission path conditions.

While we are on the subject, let's talk a bit about antenna gain. There seems to be a tendency among some antenna manufacturers to thump their chests and proclaim that "we have the best antenna in the world", and in order to amplify on

this situation they feel obliged to publish gain figures that will confirm it. For example, in a recent issue of Ham Radio magazine there were two different manufacturers proclaiming 3 and 3.8 dB gain for their antennas. Based on the generally accepted criteria of comparing the gain to the quarter wave antenna, which is replaced by the gain antenna, it is difficult assuming a decent quarter wave antenna for either of the units to provide more than a measured 1.5 to 1.75 dB gain. They have never been sure whether some of these claims are due to deliberate misrepresentation or whether they stem from a different concept and philosophy of gain measurement. One of the advertisers did state, however, in extremely fine print, that the gain was compared to an isotropic antenna; the presentation was done in such a way that it would be difficult not to come to the conclusion that they were deliberately trying to confuse the reader.

What is an isotropic antenna? You may have seen many references to it in antenna advertising. Well, an isotropic antenna is essentially a point source from which radiation is equal in all directions. This, of course, does not correspond to a dipole or  $\frac{1}{4}$  antenna on a ground plane, whose radiation in general may be visualised by placing a doughnut in the electrical centre of the antenna. As a consequence, the effective gain of an isotropic antenna is approximately 2.5 dB less than a  $\frac{1}{2}$  wave dipole or a quarter wave ground plane.

In other words, an antenna which has a rating of 3 dB over an isotropic antenna would actually have a gain of only  $\frac{1}{2}$  dB over a dipole or a quarter wave antenna on a ground plane. If they were to use an isotropic antenna as the basis of their gain claims, they could quite honestly state that they had a 5.5 dB antenna.

I am sure that all of you know the relationship between dB and power, but it wouldn't hurt to remind you that 3 dB improvement is equivalent to doubling the mobile transmitter power. If you were operating mobile to mobile and placed a 3 dB antenna on each of the mobile units, it would be the equivalent of obtaining a 6 dB system gain or actually increasing the effective power of each mobile unit by 4 times, which is not a bad bargain considering the relatively low cost of a good gain antenna. This is, of course, another reason why it is important for you to obtain an antenna which will give you an honest 3 dB gain in VHF and not one which gives you 3 dB over an isotropic and which would actually, when installed on two mobile units, provide only 1 or 1.5 dB actual system gain, certainly not your money's worth. Another gain antenna application would involve the installation of a gain antenna on the quarter deck instead of a  $\frac{1}{4}$  installation on the roof top, in which case the gain of the gain antenna will very nearly equal that of the quarter wave on the roof and with a considerably simpler installation. ■

## STOP

Before you invest in new amateur communications equipment or accessories, spare 60 seconds to read this advice.

*"Any salesman will find a way to give you a better price — but for every dollar you save that way, you spend twice as much to find the after sales service you need. Before you buy, ask another Ham where he gets good sales assistance and concerned service attention."*

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Jim Bail VK3ABA  
and staff

JAS7879-45

# NOVICE NOTES

## WHAT'S YOUR REASON FOR GOING ON AIR

Radio Communication is what you make it. There is the DX specialist, the ragchewer, the technician and the "average operator" who is probably a combination of all four.

The DX specialist never works local stations unless it is to find out some snippet of information about a rare contact who may be on frequency at a later date. His prime interest is in working as many countries as possible with a view to obtaining awards, etc. You will probably only hear him when he is working "a rare one" . . . at other times he is constantly listening and tuning up and down the band.

The ragchewer will be found in local nets, interstate groups, or talking to his mate over in Denmark or somewhere. Don't expect him to go clear in a hurry if you would like to work the station he is speaking to . . . he won't. There are many ragchewers on the bands, particularly on 80 and 40. They are less common on ten metres as this is a DX band when it is open, although there are often nets in progress at times of low band activity.

If you are the "ragchew" type do not assume because the band is quiet there is nobody listening . . . there are probably many others doing the same thing and a CQ local call could find you propped on the one frequency for the rest of the evening.

15 metres is certainly a DX band and few nets operate in the Novice portion when the band is wide open, however you will frequently find local QSOs in progress after midnight, when the band has quietened down with stations comparing notes and information. Remember others can't call you if they do not know you are there.

You will rarely hear the technician . . . ninety per cent of the time he is in his shack constructing something and if he comes on the air at all, it is usually on two metres. Many technical minded operators do of course operate on the high frequencies, but their conversations are naturally orientated toward matters in which they are interested. Be wary of joining their groups unless you can contribute to the technical matters under discussion, and then only if you are sure you are competent to do so.

That leaves the "average operator". He has usually worked quite a lot of DX stations . . . particularly during the period after just receiving his licence. Having gained the satisfaction in knowing he can "get out" he will work DX if it is there . . . or ragchew if there is someone to talk to. He is not particularly worried whether he talks about radio, the weather or raising chickens, and he rarely bothers to QSL

within Australia . . . but don't expect to find him on every night. He might be building something, playing cards with the XYL, or have gone out to the drive-in. He comes on the air when he is in the mood, and you take him as you find him. He may be a full call or a novice, and you will find him on any band. He is doing his own thing . . . as it is up to you to decide what your "own thing" will be. That is what amateur radio is all about.

## AMATEUR RADIO OPERATION

### ... WHAT YOU CAN'T GET AWAY WITH

Don't brag about the countries you've worked . . . the word will get around without you saying it.

Don't get involved in technical discussions unless you are sure of your facts.

Don't discuss religion or politics.

Don't make snide remarks or stir . . . what is acceptable in this country is not acceptable in others. Not all people think the way Australians do and their method and type of humour is completely different.

Never say anything about any operator that you have not already told him to his face, and even then be very careful.

Never say anything about an operator that you do not want to get back to him . . . you can bet it will.

Remember . . . the shack is the place for disagreements . . . not the airwaves.

Of prime importance to remember is that the main source of trouble comes from interference by your station to your neighbours or other amateurs. It is your responsibility to correct, and not ignore it if it is present.

Always be prepared to accept criticism or advice gracefully and to give criticism or advice tactfully.

Always check if the frequency is clear before transmitting.

Avoid transmitting too close to the edge of the bands allocated to you, about 3 kHz should be adequate.

Never purposefully transmit out of your band.

Conduct yourself with dignity on air . . . your reputation AND THE REPUTATIONS OF THOSE WITH WHOM YOU ASSOCIATE DEPENDS ON YOU. Remember many others may be listening to you.

Remain calm even when provoked by rudeness or thoughtlessness. Example: "Sorry Old Man . . . this frequency is in use . . . please QSY."

(From CQDX Radio Handbook.)

Trevor Reid VK3NNK, Box 79, Heidelberg Vic. 3084. ■



## CHEAP TOWER DESIGN

Here is an idea for a cheap tower. This method gave me 25 feet of fully rotatable tower for less than \$2.

The basic requirement is to have on one side of the house a flat wall going up to

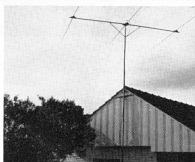


PHOTO 1

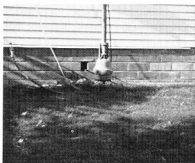


PHOTO 2

a peaked roof (see photo 1). The tower is then basically a 20 foot length of water pipe, or suitable equivalent, held against the side of the house in a bracket that allows the pipe to rotate. Dropping the waterpipe over a metal spike driven into the ground stopped any lateral movement of the tower at the base while still allowing an Armstrong Rotator to be used.

The tower in my case was secured at the end of operations by bolting another 3 foot section of steel to the pipe and poking it through a ventilation hole in the brickwork of the house. By more luck than design this left the beam pointing towards Europe and across most of Sydney.

The bracket is basically a short length of tube larger in diameter than the water-pipe. Mine was a rattling good fit with about 1/2 in. between pipe and bracket. Later when finances allow a rotator can easily be added by placing it at the base of the tower. In this position it will not be subject to any great lateral forces (see photo 2).

The only materials that had to be purchased were the bolts that held the bracket to the house. These had to be long enough to pass not only through the fascia board on the house but also through the main supporting beams in the roof. This ensured the entire structure was fairly solid.

An extra 4 feet of height was gained by ramming a short length of 1 1/4 in. water-pipe down the original 1 1/4 in. pipe. It is important not to get greedy at this point. The length above the last support acts like a large lever when the wind blows and tries

to bend the tower at that point. After a few tests I was only brave enough to have a total of 6 feet above the roof to support my 3 element yagi for 28 MHz.

This antenna/tower combination worked very well except when beaming north towards Japan, when it pointed along the ridge of the roof, but that might have been a blessing in disguise.

Stephen Garner VK2AXM ■

★ ☆ ★

## HOW I BECAME AN AMATEUR

As a boy at Technical College in the 1940s I learnt to build crystal sets and how to use them. This was the start of a lifelong interest in radio. Money was very scarce in my home so when school finished, work was the important thing. Radio was pushed into the background, but not forgotten. Marriage and the raising of a family meant radio remained in the background, but then CB radio came along.

My 20-year-old son arrived home one evening with a CB and we went to the highest vantage point possible to try out its tricks. Thirty years of smouldering interest in radio was awakened again and I found the advances in radio technology "out of this world". More importantly the realm of ham radio type communication was now within the bounds of my financial possibilities.

After a short term on CB radio I realised its shortcomings and was looking for something better and more reliable. By accident I overheard a discussion in the local electronics supply shop on a new course for novice radio amateurs at the Devonport Technical College. I enrolled, thinking to myself that even at 46 I wasn't too old to learn, or was I?

During that course 12 months ago I doubted my own ability to absorb Ohm's Law, oscillators, SSB, radio wave propagation and all the rest of it but my teacher was full of optimism. Like a nervous schoolboy I went along for the November examination last year full of fear and trepidation. Morse code was my weakness and the exam was in three parts. Firstly regulations which wasn't too difficult, then theory which gave me a glimmer of hope to pass. During waiting time in the corridor with other candidates I felt confident of passing the first two parts, but then came the morse code section.

One by one we filed into the room to send our sample of morse in a given key or one of your own choice. After some initial practice I set off and made one number mistake and was overtime by two seconds. Still the biggest hurdle was to come when I was called back into the room shortly after and sat at a long table with a set of earphones. The time had arrived for me to receive a message in morse code.

I set off after a brief practice session and, concentrating hard, almost finished the assignment before I stumbled on a letter and missed the next couple or so. Believing I had blown the whole examination I carried on and eventually my written message appeared like a Chinese conglomeration. My confidence shattered, I accepted an application form from the examiners for the next exam and drove away sure I would have to return for the next course.

A fortnight later my wife telephoned me at work to say my results had arrived and I had passed all three sections. I asked her to read it to me over the phone, not twice, but three times before I could believe her. A lifelong dream had just come true, the best Christmas present I could ever wish for. I just had to ring my course teacher and tell him. His reply was simply: "I knew you would pass, you know." Obviously he held more faith in my ability than I did.

The necessary papers were filled in and despatched to authorities and back came that coveted piece of paper informing me that I was now VK7NLH and duly authorised to indulge in my dream of 35 years or more.

The next step was a rig, the old Kraco CB set was amendable to 10 metre work if I got new crystals, and a letter was sent to a United States supplier.

In the meantime I looked at several good amateur rigs and one or two were borrowed for a practice session on air. Then I made and erected a G5RV dipole on the advice of some friends and the results were quite good. But, like amateurs everywhere else, I wanted better, so up went an elegant 2 element, 2 bander Yagi on a telescopic mast, in went a good tuner and then a TS520S transceiver miraculously appeared in the temporary radio shack of my spare bedroom. It was at this time my wife and family were considering moving

house to leave me with my bits and pieces. The hint was taken and I promptly built a permanent shack in the furthest corner of my large garage. Fitted out with lights, power points, carpet, soft chair, special console to accommodate my gear and a good intercom to the kitchen (hell, I couldn't starve, could I!). I grabbed a heater for Tasmania's cold nights and shifted camp.

I am now quite settled in and keen to work for my full call. My wife, along with other amateurs' wives, is amazed at how cheap our gear is.

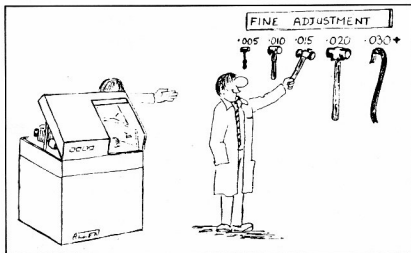
The transceiver was a bit over a hundred bucks, desk mikes go for a few dollars as do towers for antennas. The antenna was only \$50, and you know as well as I that the more that goes into that little shack the cheaper it all gets. Joiners, connectors, power supplies, meters. Gosh, they are almost being given away. Ask any amateur, he'll tell you.

Seriously, though I must admit that I have gained a great deal of satisfaction from the knowledge that I worked and studied to the extent that I could obtain a novice licence. And as I mentioned earlier I will keep going for my full call to get the most possible enjoyment from the hobby. It isn't cheap, it isn't dear, it's just what you want to make it. And there are no unnecessary demands as you can pick it up or put it down when you like. It is up to you whether you operate one hour a week or 12 hours a day and the enjoyment and satisfaction is as rewarding either way.

By the way, the crystals ordered from the United States seven months ago have still not arrived and I guess they got lost somewhere. To finish, my wife wishes to know of a divorce action anywhere citing TS520S as a co-respondent.

Cheers and 73s.

Don Houston VK7NLH. ■



(Acknowledgement: from AARTG No. 12)

# INTRUDER WATCH

Alf Chandler, VK3LC

## TRANSMITTING MODES IDENTIFIED

For our readers information the following treatise on the modes of radio transmission are designated.

The official "Classification of Typical Emissions" are laid out below, and a brief description given.

Acknowledgement is given ITU Regulations.

A0, A1, A2, A3 and F3 are too well known to need a description of the sounds produced on air, but A4 and F4, facsimile, or the transmission of pictures by radio, which cause considerable hash on our bands are identifiable by the tick, tick, tick as the carriage returns, and either a high pitched (for white) or a low pitched (for black) squelching signal.

A7A, the multi-channel voice frequency telephony, sounds like a buzz saw, the pitch being consistent with the speed of transmission.

F1, frequency shift keying (FSK) in morse or teletype (RTTY), can be identified by the mark and the space on two separate frequencies, separated by 180 to 1,000 Hertz. The mark carries the intelligence and the space in morse is what we used to call the "back wave". Teletype is sometimes hard to identify because it is not always sent at the same speed. The American speed is 45.5 bauds, while the British is 50 bauds. Some multi-channel run at as high as 192 bauds. Here we have a rather confusing issue. What is a baud? The Oxford dictionary gives a complete erroneous definition, so I'll leave it to you!! On our bands are often heard teletype blanks, reversals and RYs. Blanks sound like dots on one frequency and dashes on the other. Reversals are a series of fast dots, while RYs sound like the fast rhythmic trilling of one's tongue.

F6—four frequency diplex telephony is as though two separate F1s are on adjacent frequencies, very often two kilohertz apart.

The P series have come into prominence lately, and are pulses. In the case of the Russian "woodpecker" P0, ten to the second. Recently there has been a faster one (26 to the second), which I believe is a European ionospheric sounder.

Further information on all these signals can be ascertained from your Intruder Watch Co-ordinator, and all these signals can be heard and identified by sending me a C60 cassette or reel (30 minute) tape. I can then dub my IW identification tape for your edification and education.

Alf Chandler VK3LC,

Federal Intruder Watch Co-ordinator.

## NOTE NEW ADDRESS:

15 Point Avenue, Beaumaris 3193.

TABLE OF CLASSIFICATION OF TYPICAL EMISSIONS

Type of Modulation of Main Carrier	Type of Transmission	Supplementary Characteristics	Symbol
Amplitude Modulation	With no modulation	—	A0
	Telegraphy without the use of a modulating audio frequency (by on-off keying)	—	A1
	Telegraphy by the on-off keying of an amplitude-modulating audio frequency or audio frequencies, or by the on-off keying of the modulated emission (special case: an unkeyed emission amplitude modulated)	—	A2
	Telephony	Double sideband	A3
		Single sideband, reduced carrier	A3A
		Single sideband, suppressed carrier	A3J
	Facsimile (with modulation of main carrier either directly or by a frequency modulated sub-carrier)	Two independent sidebands	A3B
		—	A4
	Television	Single sideband, reduced carrier	A4A
		Vestigial sideband	A5C
	Multichannel voice-frequency telephony	Single sideband, reduced carrier	A7A
	Cases not covered by the above, e.g. a combination of telephony and telegraphy	Two independent sidebands	A9B
Frequency (or Phase) Modulation	Telegraphy by frequency shift keying without the use of a modulating audio frequency: one of two frequencies being emitted at any instant	—	F1
		—	F2
	Telegraphy by the on-off keying of a frequency modulating audio frequency or by the on-off keying of a frequency modulated emission (special case: an unkeyed emission, frequency modulated)	—	F2
	Telephony	—	F3
	Facsimile by direct frequency modulation of the carrier	—	F4
	Television	—	F5
	Four-frequency diplex telegraphy	—	F6
	Cases not covered by the above, in which the main carrier is frequency modulated	—	F9
Pulse Modulation	A pulsed carrier without any modulation intended to carry information (e.g. radar)	—	P0
	Telegraphy by the on-off keying of a pulsed carrier without the use of a modulating audio frequency	—	P1D
	Telegraphy by the on-off keying of a modulating audio frequency or audio frequencies, or by the on-off keying of a modulated pulsed carrier (special case: an unkeyed modulated pulsed carrier)	Audio frequency or audio frequencies modulating the amplitude of the pulses	P2D

		Audio frequency or audio frequencies modulating the width (or duration) of the pulses	P2E
		Audio frequency or audio frequencies modulating the phase (or position) of the pulses	P2F
Pulse Modulation	Telephony	Amplitude modulated pulses	P3D
		Width (or duration) modulated pulses	P3E
		Phase (or position) modulated pulses	P3F
		Code modulated pulses (after sampling and quantization)	P3G
		Cases not covered by the above in which the main carrier is pulse modulated	P9

## AMATEUR SATELLITES

Bob Arnold VK3ZBB

### AMSAT AND ARRL

I am pleased to advise renewed contact with ARRL through Bernie Glassmeyer W9KDR, and I hope to have some up-to-date leaflets, etc., in the not too distant future—I will let you know the situation when further letters have crossed the Pacific.

Also, the first AMSAT newsletter for a year has turned up with airmail postage of 87c. Obviously AMSAT cannot afford to keep this cost up continuously, so we shall have to find a formula to assist. This is a problem for Life Members as the cost of sending a draft for a few dollars for additional airmail charges is about \$2.50. Any ideas? Please don't suggest that I should collect the money! (It might get diverted to the ZBB benevolent fund.)

### CORRESPONDENCE

I have been delighted to have rather voluminous correspondence recently with Peter VK4PJ, who is a relative newcomer to satellites. Peter is on AO8 Mode A and has made several good contacts—not too good with me!

Peter is trying hard to increase satellite interest in VK4 and is currently supplying a segment each week for the VK4WIA broadcast. He also participates in the JAMSAT Net which, due to QRM, is sometimes rather difficult to copy, not only in VK4 but VK3 as well.

Peter has been in correspondence with John VK4TL, who has sent lots of interesting information. John is one of the morning pass operators and has concen-

trated on AO7 Mode B. Results are envious for we poor mortals in the south (John at Cairns is about 2,000 miles north of VK7), as he reports working some 332 QSOs with JA, plus numerous others in ZL, JA, JR6, FK8, VS6, P29, KC6, HL9, DU6, KH6, KG6 and Kure Island. At least we have a few of these plus VK0 and ZK1. Thanks, Peter and John, your information will fit in well in future notes.

### OPERATIONS

The two Russian Amateur Satellites RS.1 and RS.2 now appear to be permanently out of service. The breakdown is reliably

attributed to excessive radiation during launch; a most disappointing end to a great effort by our Russian colleagues. At least a few of us managed QSOs via RS.1 and 2 and we are looking for QSL cards—perhaps they will become as rare as a "penny black" in due course.

Oscar 7 still operates but there is little activity via the most general mode in use—"B". Reports indicate that complete failure is anticipated in September but maybe it will have yet another new lease of life.

Oscar 8 still performs well. Colin 9M2CR reports that stations in Asia hear VKs in the middle of the band, whereas in accordance with the official band plan they are at the higher end. I guess that operators in VK and ZL have not required resort to band planning on the Oscars due to limited activity in this part of the world. Maybe we should fall in line with convention—more on this next month.

### PUBLICATIONS

I have been fortunate to have had an opportunity to review a new publication by ARRL entitled "Satellite Communications", which is edited by Bernie Glassmeyer W9KDR. This book, which is mainly made up of re-prints of articles published in QST during 1978 and 1979, is primarily devoted to Oscar 8 and particularly to Mode "J" operation.

Chapters include basic AO8 information, telemetry, antennae, filters, comprehensive mathematical and computer calculations for the location of satellites and information on the Russian series.

Words of wisdom appear throughout the book such as "Antennas cut for 432 MHz can be used for Oscar 8, Mode J, but very few exhibit any gain at 435", and "some so-called low-loss types of coax are

### ORBIT PREDICTIONS—AUGUST, 1979

OSCAR 7					OSCAR 8					RUSSIAN RS				
	Orbit No.	Eqx. GMT	Eqx. °W		Orbit No.	Eqx. GMT	Eqx. °W			Orbit No.	Eqx. GMT	Eqx. °W		
1	21540	0135	88	7161	0138	71	3335	0017	303					
2	21552	0034	73	7174	0000	46	3347	0022	308					
3	21565	0128	87	7188	0005	48	3359	0027	309					
4	21577	0028	71	7202	0010	49	3371	0031	311					
5	21590	0122	85	7216	0016	50	3383	0036	314					
6	21602	0121	79	7230	0021	51	3395	0041	317					
7	21615	0116	83	7244	0026	53	3407	0046	320					
8	21627	0015	68	7258	0031	54	3419	0050	322					
9	21640	0109	82	7272	0036	55	3431	0055	325					
10	21652	0009	67	7286	0041	57	3443	0100	328					
11	21665	0103	80	7300	0046	58	3455	0104	331					
12	21677	0002	65	7314	0052	59	3467	0109	333					
13	21690	0056	69	7328	0057	61	3479	0114	336					
14	21703	0151	92	7342	0102	62	3491	0118	338					
15	21715	0050	77	7356	0107	63	3503	0123	341					
16	21728	0144	91	7370	0112	65	3515	0128	344					
18	21740	0044	75	7384	0118	66	3527	0133	347					
18	21753	0138	89	7398	0123	67	3539	0137	350					
19	21765	0037	74	7412	0128	68	3551	0142	352					
20	21778	0132	87	7426	0133	70	3563	0147	355					
21	21790	0031	72	7440	0138	71	3575	0151	358					
22	21803	0125	86	7453	0000	46	3587	0156	360					
23	21815	0025	70	7467	0005	48	3598	0001	333					
24	21828	0119	84	7481	0010	49	3610	0005	336					
25	21840	0018	69	7495	0016	50	3622	0010	338					
26	21853	0112	83	7509	0021	52	3634	0015	341					
27	21865	0012	68	7523	0026	53	3646	0019	344					
28	21878	0106	81	7537	0031	54	3658	0024	347					
29	21890	0005	66	7551	0036	56	3670	0029	349					
30	21903	0100	80	7565	0041	57	3682	0033	352					
31	21916	0154	94	7579	0047	58	3694	0038	355					

virtually unusable for Mode J. RG 8/U is acceptable only if used for relatively short runs, and anything smaller should not be used at all".

There is a simple design for a 435 MHz QUAGI, which with the "4 x 3 x 5 MHz Filter" should enable interested operators to overcome some of the receiver desensitising problems which are peculiar to this Mode.

Your copy of "Satellite Communications" can be obtained from ARRL, 225 Main Street, Newington, CT 06111, USA, for \$5.50 (US funds), post free. I suggest you add another dollar if you require airmail delivery.

Magpugs at WIA Federal Office and your

Divisional Office will also probably carry stocks of this excellent book in due course.

#### THE FUTURE

Now is the time to get your gear in good order for the launch of Phase III in March next year. As John VK4TL says, "We shall be faced with greater distances in future which require higher power for transmitting and efficient antennae on both up and down frequencies. John is building a linear with parallel 4CX 250s to run near the legal limit of 400W PEP.

I have previously mentioned the Canadian geostationary satellite. No further information is to hand on this pro-

ject but details of a new British proposal have become available and I will give details in a future issue. Known as UOSAT, this bird is expected to have SSTV facilities and a 10 GHz beacon — pass the news to the ATV fanatics.

#### SATELLITE NET

Several operators have mentioned their interest in forming an Australian Net to discuss matters relating to satellites on a regular basis. If you have an interest contact Peter VK4PJ on the air or write to him at 16 Bede Street, Balmoral, Queensland 4171, and give him some ideas of time and frequency you would prefer to be used. Perhaps our ZL friends will also contribute to this suggestion.

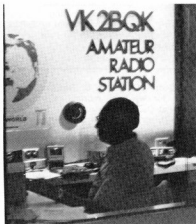
## OPENING OF RADIO STATION VK2BQK

The Hon. A. Staley, Minister for Post and Telecommunications, officially opened the Radio Bay and Station at the Museum of Applied Arts and Sciences on Friday, March 23rd, at 10.30 a.m.

The newly completed Radio Bay is equipped with an Amateur Radio Station VK2BQK, generously donated by Dick Smith, of Dick Smith Electronics. The equipment is the latest in amateur radio, and is operated by novice and amateur licence holders from the Wireless Institute of Australia, who voluntarily man the station on weekends. The Radio Station has successfully transmitted to all parts of Australia, including the Science Museum in Victoria; New Zealand, Japan and the USA.

Graphic material, photographs and historical radio and communication equipment are also on display.

For further information please contact Margaret Betteridge, Public Relations



Officer, or Jeff Sergel, Curator of Electronics, on 211 3911.

## AROUND THE TRADE

#### 1296 MHz LOOP YAGI

Spectrum International have available a Loop Yagi which gives 20 dBi gain. It is an updated version of G3JVL's design.

Spectrum International also have available UHF filters for 432 MHz and 1296 MHz.

For further details contact —  
Spectrum International,  
PO Box 1084,  
Concord, Massachusetts,  
01742, USA.

#### McKAY DYMEK RECEIVER

As recently appointed Australian Agents, Vicom International takes pride in announcing McKay Dymek's range of high quality HF synthesised and HF scanning receivers. From this range the Model DR22C is introduced as a general purpose receiver. Because the receiver tunes continuously from 50 kHz to 29.99 MHz the receiver is equally at home whether being used as a radio station monitoring receiver or by a serious SWL.

Design will allow the unit to be either installed in the standard 19 in. rack or sit contently in a living room. Modes of reception are: SSB, AM, CW, RTTY. Excellent stability make the unit a dream to use.



#### SPECIFICATIONS: DR22C

1. Frequency coverage: 50 kHz to 29.7 MHz continuous. Reception modes: AM Upper Sideband, Lower Sideband, CW, RTTY (with external converter). Sensitivity 10 dB (S + N)/N: 4 kHz SSB (CW), 0.75 uV typical. Frequency readout: 9 Digit Red 5 inch (12 cm) LED to 5 kHz.
2. Frequency selection: 10, 1, .1, .005 MHz steps — 5 kHz Fine Tune.
3. Frequency stability: Digitally synthesised phase locked loop.  $\pm 40$  Hz over 8 hours.
4. Image rejection: 70 dB.
5. RF blocking: 100 dB to 1 uV.
6. Cross modulation: 60 dB to 1 uV.
7. Intermodulation: 65 dB to 1 uV.

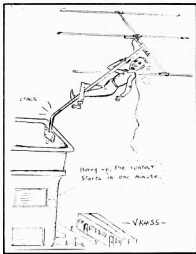
## QSP

#### LASERS

Ever thought about gear and operation on 10 GHz (10,000 MHz)? Recent experiments with a 4 mW helium-neon laser operating at 6328A produced a successful one-way QSO over a 35 km path. This is only some 4 million GHz.

Beware the fate of Harry Steed,  
— was warned, but wouldn't heed;  
That Murphy does his nasty best,  
Just before a big contest  
He's out, a-spolling bent  
Sabotaging some event —  
Or messing up the beam, or gear.  
So have a thought and a fear  
Touch naught that has no need —  
Lest you wind up like Harry Steed,  
Who spent his week-end on repair  
But never did get back on air.

Alan Shawsmit VK4SS. Written 1-2-79.



## MURPHY

# QUALITY NEW PRODUCTS

From VICOM

## LEADER TEST INSTRUMENTS



### SPECIFICATIONS

Vertical Amplifier  
Sensitivity 20mVp-p/div or better.  
Bandwidth DC or 2Hz to 4MHz (-3dB)  
Horizontal Amplifier  
Sensitivity 300mVp-p/div or better.  
Bandwidth DC to 250kHz (-3dB)  
Time Base  
Sweep Frequency 10Hz-100kHz in four ranges.  
Synchronization Internal; negative polarity only.

### Transmitter Monitoring

Frequency range 1.8 - 54MHz.  
Impedance 50 to 75Ω.  
Measurable Output Power 2-500W  
Connectors, input/output Type M (UHF).  
Two-tone oscillator  
Frequencies 1300 and 1900Hz (approx.).  
Output voltage 50mVrms, max.  
Power supply 115/230V; 50/60Hz; 12VA approx.  
Size and Weight 180(H) x 125(W) x 300(D)mm 4.7kg.

## Ham oscilloscope \$310

## monitorscope + cro



### coupler

LAC 895 Antenna Coupler  
★ 3.5 - 28 MHz  
★ Incl. Coax Switch  
★ In-Line Watt Meter  
★ Price \$169



\$25

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# LETTERS TO THE EDITOR

Any opinion expressed under this heading is the individual opinion of the writer and does not necessarily coincide with that of the publisher.

35 Whynot Street,  
West End, Brisbane,  
Queensland 4101.  
23-5-79.

The Editor,  
Dear Sir,

Geoff Wilson VK3AMK and Neil Penfold VK6NE have posed some pertinent questions re our VK/ZZL contest. May I comment on them.

Should we have a contest—or contests? Most definitely, yes. Only a minority of Hams participate in contests and only about one quarter of these submit logs—even so, they fill a definite psychological need. Healthy assertive males (and some YAs) need a friendly joust of some sort, every so often. Proof of this is to be found in man's "get together" activities. Most clubs or groups run competitions of some kind; even the senior citizens have their bowls, cards, or whatever.

In the case of AR contests, competition sharpens the wit, acts as an incentive to improve the rig and operating habits and provides the opportunity to test oneself alongside all-comers: a very important requirement if one is to develop confidence and to know oneself. On a more mundane level, it assists in working the rare DX and obtaining awards. AR is an entity made up of several minor groups, and AR, minus contests, sure would lose a lot of its character.

Should the contest duration be 24 or 48 hours? Most argument supports 24 hours. We are not in the "Big League" as countries or contests go, and the prefix VK is rather commonplace. It is quite enough to ask overseas contesters to work VK for 24 hours. More logs will be submitted than in the time span was doubled. A full weekend means starting Friday for some overseas countries and, in our case, finishing on Monday; this is too long as most participants are still at the salt mines. A 24 hours period, taking in part of Saturday and Sunday, is the best compromise.

What numbers, if any, to swap? It's not sheer coincidence that the most popular "siffs" are those in which the minimum amount of information is swapped—consequently it has been suggested that we omit the number segment and simply exchange reports. Such a modus operandi raises the problem of instant identification, or simply identification at all. In the melee of contest activity, instant identification of who's in it or not is imperative; so it follows that some number system has to be used—but which one!

I submit that the two digit fixed number is the simplest and quickest and most popular: but here again, which two digits? If we use the ITU zone number, the VK/ZZL becomes an ITU contest. If we decide on the CQ zone numbering, our test becomes similar to the CQ WAZ test. The Japs have tried to get around this knotty problem by adding one's age to the report. Any participant in the All Asian Test will have observed that this is very ID. However, I'd like to take this a step further by suggesting that RANDOM OR PERSONAL NUMBERING be adopted. This simply means that any participant can choose any two digit number he wishes and use it for the entire contest. This makes for much easier operating over the QOI sequences and enhances the number of logs submitted.

I realise the contest committee might well be loathe to take such a radical step. The only alternative then, as I see it, is to fall back on the "Jock White Innovation" of allowing the participant to commence with any number between 001 and 100. This prevents each from gagging the others' progress—which is the way it should be, particularly as it is likely to increase the number of logs submitted—which is the prime aim of any contest committee.

Finally—the GCR and Summary Sheet: At first glance, the GCR rule and summary sheet seem

to have merit, as it would save a lot of writer's cramp and entice more log entries. However, it might also increase cheating. As only one in four contest participants submits a log, cheating, by those who know how, is always possible (I won't explain how). However, an eagle-eyed scrutineer can pick a padded contest log—and it's this possibility that keeps cheating to a minimum. So because of this log submission, in my view, is mandatory.

Alan Shawsmith VK4SS.

30 Luck Street, Eltham,  
Victoria 3095.  
28-5-79.

The Editor,  
Dear Sir,

## "POISON"

I wish to draw your attention to an article that appeared in the radio amateur journal QST July 1978, which warns of the extremely toxic nature of the substance beryllium oxide.

As well as those applications mentioned in the article, beryllium oxide is to be found in commonly used RF power transistors (e.g. 2N5590, 2N6084, 840-12, etc.). Some mounting kits for transistors also use beryllium oxide washers for improved conductivity. I am certain that there are many persons handling such items who are quite unaware of the dangers involved. Unfortunately, the use of beryllium oxide (BeO) seems to be widespread.

Recently I came across an item in the 1979 Dick Smith catalogue. This warned that one of their products, Heat Transfer Compound, happened to contain BeO. If this is in fact so, and if other brands of heatsink compound also contain BeO, it would appear that a very real hazard exists to any persons involved with the maintenance or construction of electronic equipment. As you are no doubt aware, heatsink compounds being in the form of a grease, is a rather messy substance to use, and even if a cake is taken it is difficult to keep from coming into physical contact with it. This could result in traces of it being taken internally, with possible disastrous consequences.

Up till now, I have seen four different brands of heatsink compound available on the market—one contains BeO, the others may or may not, but it is significant to note that none of these has so much as a word of warning labelled on it. I find this type of situation deplorable, especially when one considers that other products on the market, far less toxic than BeO, have warning labels on them.

I hope that you will be able to pass this information on to your readers so that they will be aware of the dangers in handling beryllium oxide. I would suggest that any project you publish which makes use of this substance in any form also contain a suitable warning.

Yours faithfully,

E. J. Smeda VK3YNN.

Copies of this letter have been sent to the editors of the following magazines: Electronics Australia, Electronics Today, Amateur Radio and Amateur Radio Action.

PO Box 22,  
Woodend 3442.

The Editor,  
Dear Sir,

I wonder whether somebody could suggest a solution for a problem with my FDX 401 transceiver, vintage 1974.

The S-meter zero drifts, after some period of operation, up to 59 even with extreme adjustment of the setting resistor VR10. I have installed new 6BA6 (V205) and 6BZ6 (V1) valves to no effect. All resistances in the S-meter circuitry (R21, R3, VR2, R56 and VR10) remain stable while this happens. Plate and screen voltages of V1 and V205 remain stable at 150 and 105 volts respectively. The cathode voltages, however, drop from 1.15 to .8 (V1) and from .85 to .63 (V205). It should be noted that even the "cold" voltages are lower than the 1.5 to 1.3 volts quoted in the manual.

Can anyone suggest the cause and, therefore, the cure for this condition?

Yours sincerely,

G. H. Cranby VK3GI.

The Editor,

Dear Sir,

Concerning Silent Key F. G. Ball.

To everyone who kindly expressed sympathy in our recent bereavement please accept our sincere thanks.

Mrs. Gladys Ball (wife of Fred Ball) and Jim (brother of Fred Ball).

6 Wichman Road,  
Arladale, WA 6156.  
May 23rd, 1979.

The Editor,  
Dear Sir,

## RE SLOW MORSE TRANSMISSIONS

WE members and listeners would be extremely grateful if the eastern block of amateur transmitting stations would be good enough to keep clear of the frequency of 3555 MHz, Sunday to Friday only, around 1200Z to 1300Z. This is the prime operating time for VK3 station SM transmission and reception. Please do not forget that although ES, SM sessions have finished at least an hour before, OUR SM sessions are just starting. Winter propagation conditions from the eastern States are causing considerable jamming, particularly to our outer country areas. Other outside interference from northern fishing fleets, and, unwittingly, cargo ships approaching Fremantle Harbour is unbearable at times. Will all concerned please help in the interest of the WIA to make WA operations a lot more fruitful, pleasant, and a little less arduous? MNY TXN 73.

Yours in the interest of Ham Radio,  
Cyril Rutledge VK6CR,  
Slow Morse Co-ordinator for WA.

The Editor,  
Dear Sir,

Our Historical Officer, Mr. Bill Tanner VK7TE, is endeavouring to collate a history sheet of all Tasmanian (VK7) Radio Amateurs, past and present. He would like a photo of each, colour if possible, plus a short autobiography covering life's activities, hobbies, work, etc. In particular, data qualified, call allotted, calls held and any other details considered relevant.

Details of other Radio Amateurs in or ex VK7 would be appreciated, especially on those who have passed away (Silent Keys).

As an example of the fascinating history in Tasmania we are trying to collate and preserve, as some would remember, the playing of records on the broadcast bands in the early days by Radio Amateurs Col Wright VK7LZ and the late Len Crooks VK7BO.

If you can help, please drop us a line and, if practical, we will call on you to record the details or collect information and articles.

Yours faithfully,

L. M. Lockett VK7NSB,  
Secretary, Northern Branch WIA,  
PO Box 275,  
Launceston 7250.

PO Box 622,  
Hamilton 3300.  
May 8, 1979.

The Editor,  
Dear Sir,

Let's set the record straight on a couple of matters raised by AR contributing editors in May issue, 1979.

Bill Verrall is attempting to can the WAVKCA (VHF) Award just because he thinks it is impossible to qualify for it.

I suppose by the same reasoning we should can DXCC just because 40 or 50 countries are inactive?

Personally, if selected for ANARE 1979-80 I will be taking 5 metres to Macquarie Island, if not then October 1977 will do the same.

The WAVKCA Award never had a counterpart for VHF until 1973-75 produced the necessary VK0 and 9 contacts on 6 metres, which in turn forced the WIA Awards Committee into acknowledging the achievement of a minority of operators who worked all the areas.

Following the proof of contacts there was a lapse of two years before the certificates were forth-

coming so all in all, the award was very hard to come by and has a high degree of prestige for those fortunate to hold it.

We are always having reminder home to us about the first "this" on 6 and the first "that". Well, this is one "first" that won't be taken away in a hurry, not without a fight.

Every VHFer should be allowed to have the opportunity to qualify for the award. Making it easier, just because it is hard is not sufficient grounds for revising the rules. Remember, the possible things take just that little bit longer. Do you really think someone stuck for want of a VKO would appreciate the Federal Awards Manager meddling in the rules just to allow "all in"? He admits himself that he could also qualify for want of a VKO.

As far as getting VKO on HF, how long did it take for you to get your QSL card back, Bill? And how often is VKOPK on the air? I can tell you that it is at least three times per week for over one hour per session. Those who haven't worked him are not looking in the right place.

And this brings me to point two.

A comment in Eric Jamieson's column hits at VK3ZNG's lack of QSLing and gives credit to VK5KK as the first VK-VK3 QSO.

Hate to tell you but VK3ZCG in Lindeno was the first station in Australia to work VK3ZNG and it was into Martin's long wire antenna.

Shortly after hearing the contest and being unable to work VK3ZNG, I went to Callarat and purchased a 3 element yagi which I personally donated to VK3ZNG. The next set of QSOs some week or two later were those which VK5KK may have participated in.

As for QSLs, at least four VK3s, including myself, hold Martin's dark red card in our possessions, readily obtained by direct QSL to Box 409, Norfolk Island 2599.

As far as QSLs from VK5, I was, up to recently, handling VK5G cards and have processed over 100 VHF cards for 6 metre QSOs. Anyone who has missed out has not been reading the QSL info, so readily available over the past three years. I recently sent out 75 cards by various routes for HLBTG's 6 metre QSOs. I'm sorry to report that the incoming cards have not been sent at the same speed as those sent out. Gary is looking to gain his WAS VHF Award and I decided to help him in this quest.

My final comment is that lately there has been one-up-man-ship and oblique mud-slinging from VK5 area in matters of 6 metre operation. I believe that any column should be based upon credible news and facts which interests everyone, not just a personal soap-box for one or two one-eyed members of a "clique" who feel that the world above 50 MHz belongs to them alone!

I could of course put this in my column, but that would be abusing the privilege of writing for the VHF populace of Australia; instead Mr. Editor I use your forum, thus giving anyone the right of redress, instead of hiding behind page final deadlines and long delays between comment and reaction.

Yours faithfully,

Steve Gregory VK3QT,  
Editor, VHF News,  
Amateur Radio Action.

141 Hyde Street,  
North Rockhampton 4701, Qld.  
18th April, 1979.

The Editor,

Dear Sir,  
A couple of days ago two VK3 stations informed me I had again won the Ross Hull Contest by many hundreds of points in both the seven day and 48 hour sections. As I had not then received my copy of AR for April, I was swatting its arrival. It came today and what a let down for a winner of the most difficult contest held annually in Australia; not even being placed at the top of the list for the winner and only a few lines devoted to those who spent many hours over the three weeks of the contest trying to make contacts. Often under adverse conditions of heat, electrical storms, poor propagation and sometimes many hours of listening without even a single signal on

the VHF bands as a reward. In the tropics, there are many days and nights where operation at all is impossible at the time of the year the RH Contest is held, due to the severe electrical storms prevalent, and one is unable to operate.

Many dozens of stations operated and took part in the contest but the reason for the poor response of logs submitted has been pointed out before in AR by several correspondents. That is the continuity of numbering of QSOs, whereby all are aware of how many contacts have been made by any particular station, and if that number is well ahead, then it is considered a waste of time to send in a log. Many participants have informed me of this, year after year.

As the member's Division is entitled to hold the trophy, I would like to know if this will be sent to Queensland, and trust that remedial measures will be taken with the rules before the next Ross Hull Contest.

Harold L. Hobler VK4DO.

Editor's Note: Yes, the trophy has been sent to VK4 Division — (VK3UV).

10 David Street East,  
Springwood 2777,  
4th May, 1979.

The Editor,

Dear Sir,

I draw attention to the following extract from "THE RISE AND FALL OF THE LUFTWAFFE" by David Irving (page 214), which, I suggest, adds weight to whatever claims the Amateur Radio movement may have for consideration by the Government.

"Goering and Milch both accepted that the German electronics industry had fallen far behind that of the enemy. A basic reason was that while Britain and America had actively encouraged amateur radio enthusiasts, in Germany the amateurs had been systematically persecuted by the Reich authorities."

A footnote on the same page states:—

"In March 1943 Goering said, 'The main blame belongs to Onnesorge (Minister of Posts) — he never wanted to relax his grip on anything. We smashed up the amateur radio ham clubs and wiped them out. . . And now we need them.'"

Yours faithfully,

R. C. Black VK2YA.

## INTERNATIONAL NEWS

### WARC 79

On special assignment, WA6IDN, IARU Assistant Secretary Bruce Johnson, is travelling in Africa for WARC preparation, meeting amateurs and talking with Government officials of many countries. His travels are being written up in QST and make interesting reading for anyone wanting to know what is being done for the amateurs and the amateur service in the less developed countries. He attended the CCIR Seminar in Nairobi during February, the Region 2 counterpart of the Sydney CCIR Seminar in early April for Region 3. He took with him for demonstrations an IARU Project Goodwill receiver kit similar to the sample recently sent in Australia.

Here is a direct quote from the editorial in QST February 1979, commenting on the USA latest QST proposals for WARC 79:—

"The last major disappointment is that the Commission appears to have ignored the comments it solicited on its original proposal to make no changes to Article 41. It has proposed removing the 'requirement' of Morse code proficiency, replacing it with a 'recommendation'. This may seem harmless enough to some. Unfortunately, administrations often lose control of such proposals after they are made at international conferences; subsequent discussion may so change the proposal that the original intent is subverted. For that reason, amateur societies throughout the world have urged their administrations to propose no changes in Article 41. Canada earlier made a similar proposal which was withdrawn; now the US has fallen into the same trap."

## PROJECT ASERT

COMMITTEE PROGRESS NOTES — 17 MAY 1979

R. C. ARNOLD VK3ZBB

Although no formal meeting of the Project ASERT Committee has been held there has been considerable liaison between members of the Committee on matters of detail which continue to arise. It was also opportunity for me to have a discussion with Col VK5HI during his attendance at the Federal Convention.

1. Chart records for March and April have been received from Col VK3HI and Brian VK7ZBY. Where appropriate these were sent to Ken in the USA, but since his move to Asia they have been directed to his Sydney office and will await his return.
2. A brief note from Ken when he was at the University of Utah indicates that he is well, enjoying his stay in the USA, and had received the correspondence forwarded earlier. Ken has agreed that John VK2ZXU, at Broken Hill, should monitor Japan on 50 MHz, and that Selwyn ZL2BJO, in Palmerston North should monitor Japan on 50 MHz and Sydney on 44 MHz.
3. An offer of co-operation has been received from the WIA Central Queensland Branch in Rockhampton, and we shall have to decide which, if any, paths they should monitor.
4. A new location has been found for the VK3 station; this will be on premises at Port Melbourne under the supervision of Alan VK3JAL. Alan is also anxious to monitor a 432 beacon but this will probably have to be deferred until the beacons regularly audible in Melbourne have improved frequency stability. Would Brian take this matter up with VK7 Beacon Committee.
5. The most vital matter which is retarding the development of further receiving stations is the provision of recorders. An advertisement appeared in the May edition of AR seeking recorders from members or others; to date I am not aware of any response. Meanwhile, four new recorders have been ordered from the USA on three months delivery. This significant purchase has been approved via Federal Executive.
6. Due to business and leave commitments there has been a lull in dealing with correspondence; this should improve in the near future.



Les VK3BKF and Bruce VK3ZMR check chart recordings for "Project ASERT".



Les VK3BKF makes adjustment to 2 Mx Antenna.

Photos: VK3ZPA

# 1979 FEDERAL CONVENTION

This Convention, held in Melbourne over the weekend 28th-30th April, was attended by the Federal Councillor and Alternate Federal Councillor from each Division and all members of the Executive. Chairmen of various Federal Committees and Coordinators were also present, as shown in last month's WIANEWS, which provided an initial report on the proceedings.

In his opening address the Federal President said he was pleased to welcome the first Novice operator to attend a Convention as a delegate — Fred Parker VK2NFF, the VK2 President. In his response, Tim Mills VK2ZTM expressed thanks to the Federal President for the enormous amount of time expended on WARC 79 matters and said prior organisation this time was the best ever by amateurs and especially the WIA for such a Conference.

In discussions arising from annual reports the Federal President said he had attended 13 full day, 4 half day and 33 days overseas on Australian WARC 79 and other work during the year. Delegates were brought up to date on IARU and WARC 79 affairs. The IARU kit receiver, developed for use mainly in "Third World" countries, was produced and examined. Under Interwatch Watch matters it was hoped that WARC 79 might produce some useful results concerning "the woodpecker", but any policy to attempt combating pollution with pollution in this case was a negative approach. It was noted that little had been done to date on local intruders and pirates. Mr. Michael Owen VK3KI was nominated as an additional amateur service delegate in the WARC 79 Australian delegation as it was absolutely clear that one delegate alone would not be able to attend all meetings where amateur radio matters came up and in the event of sickness during the long Conference there would be no AR representation.

The acquisition of historical material, including a very early AR kit during the year was reported. The existing videocassettes produced by John Ingham VK3KG were viewed. Some time was taken up discussing Federal Contests and Awards, and it was hoped members' reactions to AR publicity on these would provide guidelines for proposed changes; more participation in contests, especially the Ross Hall and VK/ZL contests, was required. Increased liaison and publicity by the Federal RTTY Committee appeared desirable.

## EDUCATION

Under Agenda Items not covered in May AR WIANEWS it was decided to incorporate the Dick Smith \$3,500 donation into an Education Resources Development Fund.

It was resolved that the Institute makes further approaches to the Department for more frequent Morse (two monthly intervals) and theory/regulation (quarterly) exams and also that additional exams be conducted outside normal working hours where the need exists. The Federal Education Co-ordinator was asked to inaugurate the production of a set of educational/promotional videotape masters.

## WICEN

WICEN as a trade name is to be researched. The pursuance of a policy was adopted to negotiate with the Department for State emergency authorities to authorise WICEN exercises. A review of the present membership application forms is to be carried out before the next reprint.

## CHANNEL NUMBERING

Channel numbering for the 2m and 70 cm FM sections of the bands were debated in a working party and on report back to the convention it was resolved that a four digit number based on frequency (repeaters to be identified by output channel) be adopted.

Agenda items on matters which are policies from previous Conventions were withdrawn. It was resolved to request the IARU RI beacon project to reserve 28.260, 28.265 and 28.270 MHz for VK beacons. Work is proceeding in the VHFAC on higher frequency band plans (e.g. 23 cm, etc.).

Proposals to create machinery for affiliation to the Federal body by Australia-wide groups/clubs by regulation were referred back to Executive for further review. Much the same occurred in relation to discussion on various proposals to update the Federal Constitution. In discussions about publicity material it was agreed a need existed for state of the art distribution/promotional leaflets. A discussion was held about the "temporarily lost" 11m band. An item to introduce an annual membership card/certificate lapsed.

It was resolved to initiate with IARU the feasibility (even long term) of seeking the introduction of an international amateur licence/certificate similar in principle to the International Driver's Licence.

Pressure is to be maintained on the Department for higher speed Morse endorsements so as to qualify amateurs for overseas licences where Morse speeds higher than our 10 w.p.m. are a requirement. A motion to request higher power for Novices failed: Comment was made that there was lack of sufficient background and other data. Pressure is to be applied for customs duty by-law on amateur transceivers and equipment for use on frequency bands above 2m.

## GENERAL

Under general business items, a number were withdrawn at the time of debate, including one proposing that representations be made to increase the AOCIP Morse exam speed to 12 w.p.m. A motion proposing higher Tx powers be sought for AOCIP and AOCIP operators was not supported. The 1980 Convention was set down for Melbourne on 25th-27th April.

The audited statement of Income and Expenditure for the year ended 31st December, 1978, and the audited Balance Sheet as at the same date, together with the auditor's notes forming part of the accounts are reproduced hereunder for general information, together with a copy of the Federal President's annual report.

## STATEMENT OF INCOME AND EXPENDITURE FOR YEAR ENDED 31st DECEMBER, 1978

	1978	1977
<b>Income:</b>		
Members' Subscriptions	\$81,936	\$62,841
Interest Received	5,074	2,697
Surplus — Log Books	—	83
Call Books	—	3,038
Magbooks	8,426	4,230
	95,436	72,699
<b>Expenditure:</b>		
Amateur Radio (Note 1)	33,445	20,455
Audit Fees	489	492
Bank Charges	665	698
Convention Expenses	2,492	2,438
Catering and Entertainment	122	251
Committee Expenses	524	95
Depreciation	340	600
EDP Expenses	4,734	2,090
Electricity and Power	370	267
General Expenses	542	643
Insurances	540	495
Membership Recruiting	2,568	1,249
Postage and Freight	3,362	2,025
Provision for Amateur Satellites and Special Projects	3,000	1,000
Rent and Rates	2,230	2,137
Repairs and Maintenance	167	464
Superannuation	1,000	1,000
Stationery and Printing	4,545	1,778
Salaries and Secretarial	26,448	21,647
Telephone	884	808
Travelling Expenses	128	1,610
	\$88,615	\$62,002

<b>Net Surplus</b>	6,821	10,587
<b>Accumulated Funds Brought Forward</b>	26,279	14,795
<b>Add Transfer from Reserve Fund</b>	—	627
<b>Accumulated Funds Carried Forward</b>	\$33,100	\$26,279

## BALANCE SHEET AS AT 31st DECEMBER, 1978

	1978	1977
<b>Members' Funds:</b>		
Accumulated Funds	\$33,100	\$26,279
Special Funds — ITU (Note 2)	3,062	9,521
WARC (Note 3)	10,994	9,604
WARC Public Donations)	781	—
IARU (Note 4)	390	4,663
RWAA (Note 5)	1,153	1,100
	\$49,380	\$51,167

Represented by:

<b>Current Assets:</b>		
Commonwealth Bank — General Account	\$41,260	—
Commonwealth Savings Investment Account	25,223	22,685
Australian Savings Bonds	23,100	23,100
Australian Development Bank	2,200	2,200
Sundry Debtors — Less Provision for Doubtful Debts	14,572	26,384
	(2,000)	(2,000)
Stock on Hand — at Cost	4,276	6,254
	108,631	78,603

<b>Non-Current Assets:</b>		
Furniture and Fittings — at Cost		
Less Provision for Depreciation (340) —	1,955	1,697
	110,586	80,300

## Deduct:

<b>Current Liabilities:</b>		
Commonwealth Bank — General Account	—	5,182
Sundry Creditors	2,468	4,526
Subscriptions in Advance	42,437	11,325
Provision for Superannuation	4,652	3,424
Provision for Amateur Satellites and Special Projects	4,349	1,613
Provision for Holiday and Long Service Leave	3,500	2,763
Deposit VK4	300	300
Dick Smith Education Donation	3,500	—
	61,206	29,133
	\$49,380	\$51,167

## NOTES TO AND FORMING PART OF THE ACCOUNTS AMATEUR RADIO (Note 1)

	1978	1977
<b>Income:</b>		
Advertising	\$37,756	\$25,860
Subscriptions	1,175	2,274
AR Sales	1,567	1,139
Inserts and Sundries	4,346	1,257
	44,844	30,530
<b>Expenditure:</b>		
Awards	\$90	\$90
Bad Debts	—	280
Honorariums	4,540	3,610
Postage	10,099	6,827
Publishing, Printing and Distribution Costs	54,919	35,267
Salaries	7,778	3,666
Travelling Expenses	863	1,025
	78,289	50,965

<b>Excess Expenditure Transferred to General Account Representing Cost of AR to Members</b>	<b>\$33,445</b>	<b>\$20,455</b>
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<b>ITU FUND (Note 2)</b>		
Balance at 1st January, 1978	9,521	
Add Interest Received	982	
	10,503	
Less Payments	7,441	
	<u>\$3,062</u>	

<b>WARC FUND (Note 3)</b>		
Balance at 1st January, 1978	9,604	
(Deducted on Divisions 1977)	717	
Add Interest Received	573	
Members' Donations	10,894	

<b>IARU FUND (Note 4)</b>		
Balance at 1st January, 1978	4,683	
Add Members' Contributions	1,338	
	6,001	
Less Payments	5,611	
	<u>\$390</u>	

<b>RON WILKINSON ACHIEVEMENT AWARD (Note 5)</b>		
Balance at 1st January, 1978	1,100	
Add Interest	103	
	1,203	
Less Award Payment	50	
	<u>\$1,153</u>	

<b>FUND PAYMENT SUMMARIES</b>		
<b>IARU Fund:</b>		
Share IWG	1,686	
Dues	804	
Bangkok	2,188	
New Zealand	953	
	<u>\$5,611</u>	

<b>ITU Fund:</b>		
Publications	1,104	
Share IWG	1,665	
CCIR/SPM Geneva 1	4,582	
Circular Appeal	1,090	
	<u>\$7,441</u>	

#### AUDITORS' REPORT TO THE MEMBERS OF THE WIRELESS INSTITUTE OF AUSTRALIA

1. In our opinion the attached accounts give a true and fair view of the state of the Institute's affairs at 31st December, 1978, and of its surplus for the year ended on that date.

2. As required by the Companies Act 1961, we report as follows:

- In our opinion:
- (a) The attached accounts are properly drawn up
- (1) so as to give a true and fair view of the matters required by Section 162 to be dealt with in the accounts; and
- (2) in accordance with provisions of that Act.
- (b) The accounting records and other records, and the registers required by the Act to be kept by the Company have been properly kept in accordance with the provisions of that Act.

HEBARD & GUNNING, Chartered Accountants.  
Melbourne (Sgd.) P. W. HEBARD  
3rd April, 1979. Partner

#### WIRELESS INSTITUTE OF AUSTRALIA EXECUTIVE — ANNUAL REPORT 1978-79

1. Throughout the year, as in the past, we have tried to keep you informed on Federal WIA matters by means of WIANEWS and the Federal tapes.

2. The Executive for the year 1978-79 was elected as follows:

David Wardlaw VK3ADW, President and Chairman.  
Peter Wolfenden VK3ZPA, Executive Vice-Chairman and Chairman VHF/UHF Advisory Committee.  
Keith Roget VK3YQ, Hon. Treasurer and Chairman Finance Sub-Committee.

Ken Soddon VK3ACS, Chairman, Federal Repeater Sub-Committee.  
Graeme Scott VK3ZR, Federal Education Co-ordinator.  
John Bennett VK3ZA, Nominal Editor.

3. During the year, Keith Roget VK3YQ was transferred overseas on business. This left us with a vacancy which we are still having great difficulty in filling, although Mr. Roper agreed to act for a time as shown below.

4. Keith is one of those dedicated members whose hard work has had much to do with the success of the WIA over many years. It is pleasing to report he has been made an Honorary Life Member of the Victorian Division in recognition of his many years of service.

5. To the date of writing we have not secured a permanent replacement for Keith despite discussions with and appeals to many members.

6. At the present Bill Roper has been co-opted into Keith's place on Executive.

7. Luckily, the Executive office has, with the aid of some outside accounting help, been able to see the year out successfully on the bookkeeping side.

8. Bruce Bathols VK3UJ, as Managing Editor of "Amateur Radio" and Chairman of the Publications Committee, has maintained close liaison with the Executive by attending as many meetings as possible.

9. No report on the personnel of the Executive would be complete without mention of our hard-working Secretary/Manager, Peter Dodd VK3CJF, for his loyal and tireless efforts throughout the year.

10. Fourteen (14) meetings of the Executive were held since the 1978 Federal Convention. Attendances were as follows:

Dr. D. Wardlaw	14
Mr. P. Wolfenden	13
Mr. K. C. Soddon	12
Mr. G. F. Scott	10
LT-Col. J. Bennett	6
Mr. K. V. Roget	4
Mr. W. E. J. Roper	2
Mr. G. Scott	1

The following also attended:	
Mr. B. Bathols	13
VK3ZJK	1
VK3CJF	1
VK3YJK	1
VK3TR	1
VK3YII	1
VK3AED	1
VK3ZVG	1
P. B. Dodd	14

#### GROWTH

12. It is very pleasing to report that there has been a 23 per cent increase in membership during the 1978 financial year. Naturally this increase has an impact on the office and at present a number of aspects of the office are being reviewed. This is being done in conjunction with a review of matters concerning Amateur Radio magazine.

#### IARU

13. The fourth IARU Region 3 Association Conference was held in Bangkok from 7th to 9th October. Nine Regional Societies were present. The WIA was represented by David Wardlaw VK3ADW and Peter Wolfenden VK3ZPA. Michael Owen VK3KI, the overseas Liaison Officer, was also there in his capacity as a Director of the Region 3 Association.

14. Considerable time was devoted to discussions on many aspects of WARC matters, including preparation and representation. A policy not to seek a change in Article 41 of the ITU Radio Regulations was confirmed.

15. Considerable interest was shown in WIA Project Asst. The WIA, as authorized, pledged an additional \$1,000 to help meet the expenses of the members of the IARU observer team — JANET and 9V1RH — at WARC 79. JANET and PASA also pledged additional funds. Michael Owen VK3KI was re-elected as a Director, David Rankin 9V1RH was re-appointed Secretary. There is still no position of Chairman of the Region.

16. The next Conference of the Region 3 Association will be held in Manila in 1982.

17. The WIA donated \$250 through the Region 3 Association to the Training Project on Electronics and Amateur Radio held in Colombo. This IARU/DARC Project was also sponsored by the Governments of Sri Lanka and the Federal Republic of Germany.

18. Throughout the year the WARC Newsletters from IARU HQ have kept us informed of WARC preparations in many countries.

#### WARC

19. As Chairman of Committee 2 (Amateur Amateur Satellite) the President of the Institute is extensively involved in Australia's preparations for WARC 79. During 1978 there were two main streams of preparation.

20. Firstly, those involved with the Special Preparatory Meeting of the International Radio Consultative Committee (ICR) of the ITU. At the last Federal Convention the offer by the Australian Administration to include an amateur in their delegation to the SPM was accepted. Due to constraints of available time it was proposed that David Wardlaw VK3ADW would be able to attend the first half of the Conference and Michael Owen the second half. This in turn was acceptable to the Administration. The Convention budgeted accordingly.

21. At this stage the draft new question "Preferred Frequency Bands in the Amateur Service" before Study Group 8 was adopted. It was suggested that Australia should present a paper on this subject at the SPM. This meant a lot of hard work by a number of members, particularly Jack O'Shanassy VK3SP and Earle Russell VK3BER, co-ordinated by Michael Owen VK3KI. When the results are looked at I think the effort was well worthwhile.

22. The report of the CCIR will be used as a technical basis for WARC 79.

23. In Sydney there was an ITU Regional Seminar to discuss the results of the SPM at which the WIA represented the IARU.

24. Secondly, those involved in the preparation of Australia's submissions for the work of the Conference, particularly with relation to the frequency Table Article 5. As WARC approaches, the meetings are becoming more frequent, particularly as other Administrations' firm proposals are received.

25. Australia has supported the new HF bands for the Amateur Service and also additional bands for the Amateur Satellite Service.

#### VISIT TO NEW ZEALAND

26. The Federal President, David Wardlaw VK3ADW, and Overseas Liaison Officer, Michael Owen VK3KI, on the invitation of the NZART, attended their Annual Conference in June 1978.

27. This allowed some frank discussion on WARC and IARU matters, particularly with respect to the future of IARU after WARC 79. It was obvious that many of our problems are the same as those across the Tasman. It was also interesting to observe the method of operation of the Conference.

28. The Managing Editor of Amateur Radio, Bruce Bathols, attended the 1978 Tasmanian Amateur Radio Convention in Hobart in November 1978.

29. During the year the Federal President has had the opportunity to meet the Minister for Post and Telecommunications on a number of occasions, one meeting being specifically to discuss TV Channel 5A.

30. Since the last Convention a Joint Committee of personnel from the Central Office of the Radio Frequency Management Division of the P. and T. Department and members of the Executive of the WIA has been set up. This Committee has met on a number of occasions and covered a wide range of topics. Brief notes on the proceedings of each meeting were circulated to Federal Councilors.

#### TV CHANNEL 5A

31. The thorny problem of Channel 5A again raised its ugly head during the year. For many years the WIA has been campaigning against this Channel (non-standard internationally). When the suggestion was made in the Melbourne Press that 5A could be used for ethnic TV, the President immediately wrote to the Minister for Post and

Telecommunications, the Hon. A. A. Staley, and followed this up with a personal interview. At this meeting the problem of a TV Channel adjacent to an amateur band was explained and some documentation of tests carried out on TV receivers was handed over.

32. At the same time all amateurs were urged to put the case to their Member of Parliament. Follow-up contact was made with the Minister.

33. At the Queensland Division Convention the Federal Minister for Bowens, Mr. David Jull, said "The decision for Channel 5A to be used in metropolitan areas has been completely shelved and won't happen — furthermore, an investigation is now under way by the Department to eliminate those areas that are using Channel 5A for translator facilities in some country TV areas."

34. On 20th September the Minister announced special broadcasting services for the ethnic community would be on UHF.

35. A technical submission on the problems of the use of Channel 5A has been presented to the Minister.

36. It is interesting to note that in the Australian proposals for the work of WARC 79 it is proposed to modify Footnote 279A to read:

"In Australia the band 137 — 144 MHz is also allocated to the Broadcasting Service for Television UNTIL THAT SERVICE CAN BE ACCOMMODATED WITHIN THE REGIONAL BROADCASTING ALLOCATION."

#### EDUCATION

37. An Educational Co-ordinator's Sub-Committee has held two meetings in Melbourne during the year. These were both attended by interstate representatives. Also, the Co-ordinator, Graeme Scott, has been in constant contact with the Examination Section of the Department. A Bank of 600 Novice questions was presented to the Department. This Bank was the combined work of a number of members. But thanks must go to John Kolm VK3YJK, for the work he did in preparing the cards. The Novice Morse exam seems to be able to generate endless comment with differing opinions from all corners of the Commonwealth.

38. The main subject of concern to the Education Co-ordinator is the AOCF Syllabus, particularly with the intention to go to multiple choice type questions to speed up marking. Distinct progress is being made and the Department has been very co-operative.

39. Dick Smith has donated \$3,500, the proceeds of the auction of equipment, to the Federal body of the WIA for educational purposes. At the moment no disbursements have been made as the path of most effective use has not been finalised.

#### HANDBOOK FOR OPERATORS OF RADIO STATIONS IN THE AMATEUR SERVICE

40. At the Joint Meeting with the Department on 22nd August, in answer to a WIA question, it was stated that there was no staff available to proceed with any work on the Handbook. No comment was forthcoming on the matters concerning the Handbook amongst other things in our early August 1977 letter (page 20 AR, September 1977). During October we were informed that a person had become available in the Department and that he was drafting a revision of the Handbook.

41. A draft was shown to the Federal President and Secretary two days before the President left for the SPM in Geneva.

42. There were a number of aspects that it was considered the WIA could not agree with. As it was stated that it was hoped to have a final draft in December, we felt that this gave the Institute insufficient time, particularly in view of the statement made at the August meeting with the Department. A letter calling for a three month hold was dispatched immediately. Also urgent comments were called for from the Federal Councilors.

43. The Federal Secretary, in view of the pressure put on the WIA, produced comment on the Departmental draft based on existing Institute policies. WIA also produced its own draft based on the old Handbook and Departmental draft on Novice questions etc. This was discussed at the November 22 meeting with the Department.

TABLE 1 (Previous year in brackets) at 31-12-78

	Total Licences	WIA Licences	% members to total licences	Other WIA members	Total WIA members
VK1	229 (187)	123 (103)	53	53 (37)	176 (140)
VK2	3633 (3955)	1590 (1199)	42	243 (241)	1773 (1440)
VK3	2941 (2407)	1417 (1200)	48	442 (414)	1659 (1614)
VK4	1334 (1018)	757 (605)	56	209 (150)	966 (756)
VK5/8	1296 (999)	690 (560)	53	265 (213)	955 (773)
VK6	807 (842)	409 (342)	50	111 (94)	520 (436)
VK7	328 (275)	212 (181)	64	75 (67)	287 (228)
Other	19 (20)	—	—	—	—
Totals	10587 (8483)	5138 (4171)	48	1398 (1216)	6536 (5387)

TABLE 2. Total Licences — by Grades

	Full	Limited	Novice	Total
VK1	157	43	29	229
VK2	2006	897	730	3633
VK3	1595	980	455	2941
VK4	639	391	304	1334
VK5/8	667	321	308	1296
VK6	452	207	148	807
VK7	184	94	50	328
Others	—	—	—	19
Totals	5611	2933	2024	10587

TABLE 3. WIA Members by Grades

	F	A	C	T	S	G	L	X	Total
VK1	119	53	2	—	—	—	2	—	176
VK2	1072	188	302	28	48	116	11	6	1773
VK3	988	326	318	41	63	115	15	13	1859
VK4	361	100	329	92	9	47	4	24	966
VK5/8	441	201	184	23	27	52	4	23	955
VK6	302	65	70	35	9	32	4	3	520
VK7	177	61	20	7	6	9	5	2	287
	3440	994	1225	226	162	371	45	73	6536

44. A further draft marked "Not for Publication" was shown to us, some of the aspects that were objected to by the WIA having been removed.

45. At the February Joint Meeting with the Department it was stated that new only minor edits could be done. It was explained that this new edition will obviously need to be revised after the new Act and associated regulations and WARC 79.

46. One worrying aspect is that much of the WIA submissions on the Handbook forwarded to the Department over a number of years appears to have been overlooked or mislaid.

#### WARC FINANCE

47. As instructed by the Federal Council, a letter was sent to all non-member amateurs soliciting their contributions to WARC funds. The response barely covered the cost involved although we have gained some new members.

48. Contributions were also sought from the commercial advertisers in Amateur Radio with quite a satisfactory result. Also many Radio Clubs are making substantial donations and these are also very greatly appreciated.

#### PUBLICITY AND RECRUITING

49. We have maintained our advertising in ARA and C&A throughout the year at a not insignificant cost. However there seems to be a constant stream of replies to these advertisements. In order to help with displays, a number of sets of coloured posters depicting amateur radio have been prepared. Unfortunately due to their cost they are not disposable.

#### VIDEOTAPE

50. Due to the importance of Videotape as a visual publicity and educational media, it was decided to appoint Ingham VKSKG as Federal Videotape Co-ordinator to handle our growing library of videotapes.

#### STANDARDS ASSOCIATION OF AUSTRALIA COMMITTEE 14/4. SITING OF RADIO COMMUNICATIONS EQUIPMENT

51. The WIA was represented at the inaugural meeting by Ken Seddon VK3ACG, who reported the standard is not intended to apply to radio amateurs and the general opinion was it could not be applied to amateurs. The WIA will continue to be represented.

#### PROJECT ALERT (Amateur Service Experiment in Radio Transmission).

52. Following a proposal by Ken McCracken VK2CAX that amateurs should become involved in a systematic investigation of VHF/UHF propagation modes, the Executive, on the advice of the VHF/UHF Advisory Committee, decided to sponsor the project.

#### SCIENTIFIC GOALS

53. It is proposed that the Amateur Service should conduct an experiment with the following goals:

- (1) To provide a set of unbiased statistics and a definition of the morphology of VHF/UHF transmissions over the Australian continent and to conjugate with other points in the Northern Hemisphere.
- (2) To distinguish between the several propagation modes and to relate them to other observable parameters.

#### AMATEUR RADIO

54. The current high standard is being maintained by the Publications Committee under the able leadership of Bruce Bathols VK3UV. Bruce has indicated his intention of giving up his present position at the end of the year. As a consequence, a number of possibilities have been investigated by the Executive. At the forthcoming Convention it is hoped to be able to support the discussions on the various alternatives with as much as possible

that can be obtained in the way of factual figures. Of course, any discussion on the future of Amateur Radio is very much tied to discussions on the future role of the office.

#### AMATEUR ADVISORY COMMITTEE SYSTEM

55. At the February Joint Meeting with the Department it was agreed that the aims and objects should be revisited and the P. and T. Department would re-draft the necessary memorandum for mutual discussion.

56. The Federal Repeater Sub-Committee Chairman reports that, although he had all but reached agreement with the Department in November, the Repeater conditions as proposed in the Draft Amateur Operator's Handbook generally appear to have ignored the discussions between the Department and the Executive over the past couple of years.

#### WICEN

57. At the same time as there was a change in the Federal WICEN Co-ordinator, there was also a change in the Director-General of NDO. However, the new Director-General, Rear-Admiral R. C. Swan, has been briefed on WICEN matters by Ron Henderson VK1RN, the new Federal WICEN Co-ordinator.

58. Further DX records on VHF and UHF were recorded during the year.

#### ESP

59. No opportunity has arisen to re-examine the accounting package in our computer programmes.

#### MAILING SERVICE

60. A disastrous fire at Automail in late July destroyed our stocks of envelopes on hand as well as causing problems with current papers awaiting August AR.

#### CALL BOOK 1979

61. Work is proceeding on this. Input of non-members' data from P. and T. Department records has been accelerated thanks to great co-operation by the official involved.

#### MEMBERSHIP STATISTICS

62. These are compiled on the same basis as for previous years. It should be noted, however, that the Departmental totals means licences issued, whereas the Institute's statistics refer to number of members. With many people now holding both a limited and a novice call there will obviously be more licences than actual people.

63. In conclusion, I would like to thank all those Federal officers and Committee members who have worked so hard for the Institute, and it is heartening to see the growth in membership, particularly as WARC 79 approaches.

DAVID WARDLAW, Federal President

## DIVISIONAL NOTES

### VK2

The VK2 Division has approval pending for the operation of Australia's first 10m beacon. While this has been listed for some time as operational, there have been delays in licensing. It is some years since the concept of 10m beacons in Australia was developed, there is now some lessening of the need with the increasing activity in this band. It is now likely that three 10m beacons will be developed for Australia. The first will be located at VK2WJ Dural and the others could be in North Queensland and Western Australia. The frequency block will be 28.260, 28.265 and 28.270 MHz.

VK2 Division Council has approved the establishment of 70 and 23 cm beacons at Dural. The equipment will also serve as broadcast programme outlets.

In order to encourage 70 cm development Council has approved the establishment of a second repeater on this band, which will be located at Dural. The first is located at Paddington, which is still to change frequency to the band plan. Both repeaters will use the 5 MHz separation system.

ATV broadcasts will be re-commenced after a couple of years break. Signals will originate from

Paddington on ATV Ch. 2 (442 MHz) and relayed by the Central Coast repeater on ATV Ch. 1 (426 MHz). In the near future it is expected that the Division's ATV repeater, to be located in the eastern Blue Mountains, will be operational for both experimental and broadcast use. Frequency is 50 cm which is ch. 33 on a UHF TV set.

Mt. Binda channel 1 repeater VK2RDX of St. George ARS was vandalised some time about 8th June.

### VK3

On Sunday, 28th February, 12 members of the THUGS Radio Club tackled the job of sorting the Vic. Division's library, which has been stored in tea chests for some five years.

After about 10 hours work library shelves were stacked with books and magazines dating from 1928 to 1978.

On behalf of the Council and members of the WIA Vic. Division, Mike VK3WV, the Divisional Librarian, would like to thank all the willing workers who gave so generously of their time and effort to complete this difficult task.



Mike VK3WV and Ann VK3YOF survey the results of the day's work.

The N suffix call signs having been allocated the new Novice series for Victoria with V suffixes are being issued.

#### VKE — OFFICE-BEARERS 1979

President, Mr. Ross Greenaway VK5DA; Secretary, Mr. Peter Savage VK6NCP; Treasurer, Mr. Bruce Jacobs VK6ZAT; Federal Councillor, Mr. Neil Penfold VK6NE; Alternate Federal Councillor, Mr. Peter Savage VK6NCP; Assistant Secretary, Mr. Bruce Hedland Thomas VK6OD; Councillor, Mr. Allyn Maschette VK6ZGA.

Officers appointed: VK6RP, Membership; VK6UN, Enquiries; VK6DV, Publications; VK6NK, Contest Manager; VK6NAG, Awards Manager; VK6ZAT, AR Sub-Editor; VK6WT, Intruder Watch; VK6JK and VK6HA, Auditors; VK6LQ, Programme Organiser; VK6IF, District Co-ordinator; VK6RU, QSL Manager; VK6CR, Slow More Co-ordinator; VK6OO, Education Officer, assisted by VK6UI and VK6DA.

Positions of Technical Officer and Social Organiser still vacant.

Our thanks to the retiring officers VK6AN, VK6CU, VK6JY.

Information via Bruce Jacobs VK6ZAT.

### QSP

#### EMERGENCY TRAFFIC RE-BROADCASTS

The FCC, according to Ham Radio, April 1979, decided that amateur transmissions of emergency information cannot be re-broadcast by commercial broadcast stations.

#### RTTY IDENT.

The FCC turned down a petition that stations operating on RTTY be permitted to identify by RTTY instead of CW as now required.—Ham Radio, April 1979.

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# VHF-UHF

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Eric Jamieson, VK5LP



### AMATEUR BAND BEACONS

Freq.	Call Sign	Location
50.001	WA6MHZ	San Diego
50.004	PY1RO	Brazil
50.010	HL8TG	Seoul
50.023	HL8PP	Haiti
50.025	GY4RC	Jamaica
50.030	KL7CDO	Alaska
50.039	Z56PW	South Africa*
50.035	ZB2VHF	Gibraltar
50.055	WA1ENX	Maine
50.050	Z56LN	South Africa*
50.075	HK1/4	Columbia**
50.080	T26LA	Costa Rica
50.088	VE1S1X	New Brunswick
50.091	W46JRA	Los Angeles
50.093	WA8FTA	Michigan*
50.092	W7KMA	Oregon*
50.098	K7IHZ	Arizona*
50.100	Z56HV	South Africa*
50.111	F0DR	Tahiti
50.104	KH8EJ	Pearl Harbour
50.110	K6GJH	Gum*
50.110	J1YAA	Marcus Island*
50.110	KH8K	Marshall Islands*
50.110	K6GR	Saljan*
50.110	ALTC	Alaska*
50.500	SB4CY	Cyprus
51.999	YJ8PV	New Caledonia
52.000	K0BCB	Casey Base†
52.200	K6RVF	Darwin
52.230	VK8RT	Perth
52.250	VK8RTU	Galapago
52.400	VK7RNT	Launceston
52.450	VK2WZ	Sydney
52.500	3D2AA	Fiji**
52.500	J121GY	Nagoya
52.550	ZL2VHM	Palmerston North
52.510	ZL2MHF	Mt. Clemie
52.800	VK8RTW	Albany
52.900	VK8RTT	Carnarvon
53.000	VK5VF	Mt. Lofly
53.100	VK0MA	Mawson***
144.010	VK2WZ	Sydney
144.400	VK4RTT	Mt. Mowbellan
144.475	VK1RT	Canberra
144.500	VK8RTW	Albany
144.700	VK3RTG	Vermont
144.800	VK5VF	Mt. Lofly
144.900	VK7RTX	Ulverstone
145.000	VK8RTT	Perth
145.100	ZL2VHF	Auckland
145.150	ZL1VHW	Waiakato
145.200	ZL2VHF	Wellington
145.250	ZL2VHF	Palmerston North
145.300	VK8RTX	Christchurch
145.400	ZL4VHF	Dunedin
432.400	VK4RBB	Brisbane
432.450	K6RXP	Ballarat
432.475	VK7RTW	Ulverstone

\* Denotes these beacons operate on an attended basis, i.e. operator in shack.  
\*\* Repeater station, output on 50.075, input 50.125 FM.

\*\*\* 3D2AA and VK0MA are doubtful. Awaiting some confirmation or will be removed from August list.

† No receiver available yet at this base.

A number of new attended operator beacons have been added this time, but there are probably plenty of other such stations too.

### VHF FROM EUROPE

A copy of a letter has come to me from a source unknown which gives some interesting background

to the VHF scene in Europe and nearby areas, and is generally relevant to 6 metre operation, so you may be interested.

"The English Ch. F2 sound frequency is 41.25 MHz and is commonly received over vast distances now with increasing MUF. It's quite common in South Africa and of late has been noted in Ch. F2 and the ERP of the sound transmitter is quoted: Troyes 62 kW, zero offset; Limoges 50 kW zero; Caen 12.5 kW zero; Bastia (Corsica) 2.5 kW—20 kHz.

"BBC-1 Ch. B1 has a sound frequency of 41.5 MHz, where as 45 MHz there are 7 higher power transmitters, video ERP is quoted (sound being 25 per cent of this figure) and details of the sound offset is given as either zero, + or — Crystal Palace 200 kW zero; Ashkirk 18 kW +16.8 kHz; Divis (NI) 12 kW zero; Redruth 10kW —20 kHz; Thurmaster 7 kW zero; Llandudno 5.7 kW —16.8 kHz; Llandrindod Wells 1.3 kW +16.8 kHz.

"The next main frequency of note is Ch. E2 zero carrier and Ch. B2 sound carrier at 48.55 MHz; Holme Moss 10 kW zero; Fossemarkle 20 kW —20 kHz; North Heslory Tor 14 kW —20 kHz. These are video ERP, sound 25 per cent. On the same frequency is RTVE Spain 250 kW; Portugal 43 kW —6 kHz; BBC-1 Ch. B2 video on 51.75. Italian Ch. 1A video 53.750 with three transmitters to 35 kW. Ch. E3 video 55.25 MHz carries a vast number of transmitters, the most probable one being Canary Islands operated by RTVE in Spain live via Intelsat 4a satellite, running 350 kW. On 53.750 there is a Ch. B in Eire with 40 kW +6 kHz. Eastern Europe use video carriers on 49.75 MHz.

"China has a sound carrier on 56.250, Africa uses E2 on 48.25 and ES 20 kW from Rhodesia, Nigeria uses E3 on 55.25. French video carrier is on 52.400 MHz. In the Middle East E2 is used by Dubai and Iran. There are no police or similar transmissions in Europe between 30 and 50 MHz. South Africa uses various frequencies around 40 to 43 MHz for mobiles, while the Rhodesian Army uses 45 MHz for communications."

So there is some fresh information to put on your check list for possible areas to hear. With Europe in general not having a 50 MHz transmitter you won't be able to do much about working stations there, except perhaps Gibraltar. But good luck, you never know what you might hear. But please, no wildcat reports about unconfirmed hearings now you have these frequencies to go by, video will be virtually impossible to identify, remember, England uses 405 lines, France and Russia 819 lines and Western and Eastern Europe 625 lines. If you hear unidentified sound carriers, put the information on tape for future identifications, together with the date and time and frequency.

### THE SIX METRE SCENE

David VK5KK has filled in the period 24-4 to 22-5 as follows, with later information at the end.

"We are now seeing the tail end of the equinoctial DX season but still a few surprises in store for those who keep operating. 24-4: 2330Z onwards KHMS5 5 x 7, K6GJDX to S9 till 0100Z to VK2, 3 and 5. KH8EJ repeaking from 0245Z till 0330Z to VK5. Best S6. 25-4: JA opening to VK2 and 5, etc., predominantly JAS areas but others except 4 and 6. Time 0330 to 0630Z. From 0600Z onward propagation evident in VK3 and 7 but very little to VK2 and 5. All signals from VK5 disappeared by 1100Z. Nowhere near as good as the September 1978 opening to 34 degree mark. 28-4: Saw one of the best all round DX days in April. KH6IAA KH6NS 2230Z. KH8EJ gone by 0330Z. HL8TG from 0400 to 0600Z and 0800Z to 1000Z. All States, peaking to S9+1 at times! K6GJXS from 0200 to 0230Z to VK5 at least. Enormous backscatter (F layer and not E) between VK2, 5 and 6, resulting in a transcontinental backscatter contact between VK6WD and VK2BQJ with VK5KK in the middle with S x 9 in each direction. Also VK2 stations evident but at a lower level. When contact transpired (0300 to 0330Z) no VK3s could be heard otherwise it could have been a very interesting four State hookup! This must surely rank as one of the best backscatter distances in VK on six to date. All beam headings seemed to point to an area around east P29. Heard amongst the best backscatter were VK6WD, VK6BV, VK6OX, VK5ZBU,

VK5ARZ, VK5KK, VK2BQJ, VK2ASZ and VK8OF, plus others. And of course JA at the same time! They were from 0000 to 1000Z with signals dropping to S2 around 0830 to 1200Z to VK2 and 5, etc. With signals to VK3 and 7 as well but on a slightly more restricted time basis but still 5 x 9. VK2BQJ for one worked over 200 JAs, with like totals in VK3, 5, 6 and 7. It's no wonder the band hasn't recovered since! Also heard on 0330Z in VK2, 3, 4 and 5 on about 0800Z running a beacon to S9 around 2330Z. JAs working K6BU Marshall Islands from 0300Z to 52.055 MHz! Later JAs worked ZK1AA and F0DR on 50 MHz. To top it off, ES opening to VK2 and 4 from VK3 and 5, with VK2BQJ, etc., from 1100 to 1200Z.

"Es (or not Es), no question about it on 27-4 yet another in a series of ES openings, this time to VK2 from 0200 to 0400Z. Also VK4RO around 0200Z. JAs on 52 around 0330Z but not strong to VK5. 28-4: JA lower areas 5 x 7 from 0500 to 0600Z on 52 MHz to VK5. From 1130 to 1400Z ES to VK2 and 4 with 5 x 9 signals to VK5. One interesting contact was with VK2ZD/PJ on 52.045. Jack (ex WA9AHZ) was running an IC50 inside a hotel room on the 22nd storey! Signals 5 x 2, not bad for April! Although unrelated to the above, VK5KK and VK5KK worked VK3ATN on 43.2 MHz SSB with signals to S9. Interesting tropo signals as VK5SV also worked VK3ATN on 144.090. No other stations heard although it was nearly 2 a.m. before everybody signed! Also tropo conditions to VK3ATN on 52 MHz. 29-4: VK6J worked crossband to VK5KK, 50.025 to 25 MHz with signals above 50 MHz although signals steady 519 from 0135 to 0158Z. Closest since W4VNV crossband on 12-4 (50 to 52 MHz). JAs around 0500Z but not strong.

### INDONESIA WORKED ON SIX

"On 30-4 more DX. Several meter worked "pings" on 52.055 from WBXJ, 2350Z. K6GDX 5 x 9 around 0030Z also to about 0100Z. At 0156 on 52.050 MHz YBOX (portable DXpedition to Indonesia) worked by VK5KK 5119 on CW and 52.055 on SSB in contact at 5 x 2. Signals from YBOX substantially stronger on 50.110 at this time. Heard by VK5LP at 0200Z 419 CW and on SSB at 0204Z but too weak for contact. It was also heard on the bands the following day that VK3OT had worked YBOX prior to the VK5KK contact, but we are unable to confirm this at present, although awaiting information from overseas. However, these contacts would be amongst the first made during the first 24 hours of operation of YBOX, who later worked VK6GB and VK4RO at least, probably others.

### BAND NEVER CLOSES IN VKS

"Next few days saw a reduction in openings to the southern States from JA, etc. However in VK4 and VK8 (doesn't the band ever close there?) things still going strong. JA to VK5 on 2-5 and 35-40 around 0500 to 0600Z. SN1BMK to VK4GB, VK8VV and VK8DI on 2-5. More on SN1BMK exploits later. 3-5: Two K5s heard in QSO on 50.125 SSB at 0013Z, signals lasted 150 seconds peaking to S5. At 0230Z VK8GB hearing W5 for quite some time. 4-5: VK8GB heard W6 on 50 MHz from 0300Z onwards, while VK8VV heard W6 10.05 at 0200Z. Very good ES in USA at the time. JA to VK5, etc., around the magical 0500 to 0600Z on 6-5 and 7-5. And more. VK8VV worked KASCEB on 52.005 at 0500Z on 5-5. Also VK6J worked VK8GB, VK8VV and VK8DI around 0156Z on 52 MHz. And more SSB heard on 52.109 peaking 75 degrees at 2345Z, about 5 x 1. Call sign only partly copied (WA67R). Would you believe it seems these little blirts were more common in early May than during the early parts of April, to hear. 6-5: Es to VK2 from 2300 to 2330Z.

"Since then odd patchy JA and VK DX. Best days 6-5 (lower areas 5 x 5 for one hour), 20-5 and 22-5 for JA DX, no later than 0830Z on 52 MHz. Es on 20-5 with VK4Z2A/P, VK4ZWH, etc., to VK5ZZZ, VK5KK and VK5LP, it seems also that JAs have been running VK5 most of the time. 6-5 opened from 0330 to 0500Z with Ch. 0 from 0000Z. Also VK2WJ beacon appears quite regularly for a period between 2200 and 2300Z between S1 and S5. So far for one third of May the beacon has been audible for good periods outside the usual meteor scatter position. Also to hear is that VK4RO and at least one other VK4 have had some success in working K6BU and 52 MHz but no details.



Africa at 1810Z on 13-2, at a world record distance of 7,117 km. This record stood for three days, until SV1AB also worked ZS6DN over a distance of 7,127 km. SV1AB also heard ZSSC in Durban, a further 400 km.

#### LATE NEWS FROM EUROPE

The 52 MHz band stayed open to South Africa during the first two weeks of March with G3CQJ and G3FJB working crossband to ZS6XJ, ZS6ASO, ZS6AUB and ZS6BQ. The African stations listened around 28.333 MHz. The English stations were full of praise for the strong signals being heard from the Canadian beacon VETSIK on 50.088, which helped with west-east contacts.

#### SMIRK NEWSLETTER No. 20

What an incredible amount of six metre information. Ray Clark K4ZMS is to be congratulated on putting it all together. Three closely packed foolscap pages of information covering the world-wide contacts being made on 50 to 54 MHz. Most contacts of course are taking place on 50 MHz, being the international segment, so we miss out on much as usual. The news in the SMIRK Newsletter is so vast one just cannot start to take information from it, it's just an incredible news sheet, to put it mildly!

#### SOMETHING TO LISTEN FOR

Apparently there is a beacon in Alaska signing KL7CQG on 50.040, which could be useful. Also there is that communications station in Darwin VL5SA on 48.450 MHz, and three USA television video carriers are to be found on 55.240, 55.250 and 55.260 MHz. Being of considerable ERP these last three would be worth taking a look at from time to time. Bill W3XO of QST World Above 50 MHz mentions a beacon on 50.000 signing K4ERCJ in Quito, Ecuador; also CHOTS on 50.100 from Easter Island.

#### EME REPORT

Further to the brief note last issue, Chris VK5MC has written confirming his success on 432 MHz EME as follows: 21-4: 0840Z VETBBG M/M reports. 1020Z JA6CZD O/O reports. 22-4: 1705Z ZS6JJ O/M. 1810Z 15M5H O/M. 0915Z K3N5S O/O and 0930Z K2UTV M/M. His signals were also heard by Ray VK3ATN using a 16 foot dish, and a few odd letters were heard by VK3BKF using a single loop yagi on a 17 to 20 foot boom. Chris reports all the stations worked have larger antennae than he did, and have been on for some time. He has a few more improvements to make, particularly to his receiving system.

#### PRC10 ARMY TRANSCEIVERS

Mark VK5AVO has offered the following information in an attempt to help anyone having difficulties in getting to grips with the PRC10 transceiver which is being used quite extensively for monitoring 38 to 55 MHz. 1. Circuit diagram, plus basic alignment data and other notes for \$1 to cover envelope, copying and postage. 2. Additional details, up to about 30 pages, including the above for \$2.50.

I have seen the information made available by Mark and it is good value for the money asked. Address your enquiries to Mark Spooner, 30 Milne Street, Vale Park, S.A. 5081.

#### SMIRK 100 AWARD

Congratulations to David VK5KK who has just received his SMIRK 100 Award, No. 265, for confirmed contacts with 100 other SMIRK members. Current SMIRK membership extends to 50 US States and 43 countries, with 3,140 members, 265 now hold the 100 Seal, 110 the 250 Seal, 38 the 500 Seal and 3 the 1,000 Certificate. 50 also hold the DXDC Award, which is for 10 countries confirmed on 6 metres.

#### INDONESIA ON SIX METRES

The news is not quite that good, but six metre operation by a special station, call sign YB0X, has been permitted for three operating periods.

The station has been authorised by the Indonesian government to carry out propagation tests on six metres. The station will be operated by members of the Indonesian Amateur Radio Organisation, ORARI, together with a goodwill group of Japanese operators.

Details of the station operation are as follows:—Call sign: YB0X.

Operating Periods: Initially 29th April until 7th May, 1979, followed by follow-on tests in August and October, 1979.

Location of Station: Jakarta.

Frequencies: 50.110 MHz and 52.650 MHz.

Beacon Cycle: 30 seconds transmitted followed by 10 seconds listening period.

Modes: CW and SSB.

Rigs: FT625D, FTV901 and FT901DM.

Break ins for exchange of signal reports and SWL reports are welcomed. QSLs will be handled by JA1UT. The station will also work Oscar and the HF bands.

This information was supplied by Sawonde YB0AT on behalf of ORARI.

#### 2m DX TO JAPAN

Following last month's announcement of the VK8 to JA 2m FM contact, Albert VK8HW and Lynn VK8EW have provided us with a little more information on their contact.

The rig used was a Trio TS700 modified for full coverage from 144-148 MHz, all modes.

The antenna is a home brew eleven element beam with gamma match at approximately 25 ft.

Weather conditions: temperature 28°C, humid, no wind or cloud, the sun had just set.



Lynn VK8EW and Albert VK8HW.

#### BALLARAT BEACON

A brief message has come through that the Ballarat beacon has been delicensed. At this stage no further information is available.

Perhaps that is not a good note to close on, but close we must. Thought for the month: "There are three ways to get something done; do it yourself, hire someone or forbid your kids to do it!"

73. The Voice in the Hills. ■

## QSP

#### LONG-RANGE PLANNING

April 1979 QST editorial deals with the future for ARRL. The League's Board directed ARRL President to appoint a long-range planning committee for the purpose of reviewing and making recommendations to the Board concerning the programmes which the League is and should be providing to its members and to the amateur radio service. Comments were that many people were concerned that the ARRL has been inclined to react rather than proact, that membership services have become a patchwork quilt affair without any overall plan of co-ordination and that the League tended for years to react to rule-making proposals emanating from the FCC rather than setting a course for the future regulatory development and guiding the FCC into fulfilling it.

#### 2m DX

On 16th February SV1AB in Athens worked ZS6DN in Pretoria, to set a new 2m DX record of 7127 km. Three days earlier SV1DM had worked ZS6DN on a 7117 km path. KP4ES, KP4Q and KP4AAN all worked into Argentina on 2m FM on 15th February. —Ham Radio, April 1979. ■

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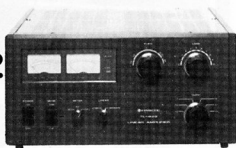
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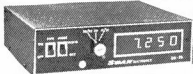
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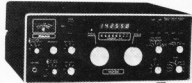
## Microprocessor Technology Swan's Success Story

Swan's high technology engineering department is challenging the best in the world. In keeping with the master plan of establishing Swan as number 1 in its areas of expertise, two more state-of-the-art transceivers will be announced at the Dayton Hamvention the last week in April.

The first is the microprocessor controlled, digital synthesized ASTRO 150 amateur HF Transceiver. With powerful 235 watt PEP and CW input on all bands, and extended frequency coverage in the 2-30 MHz spectrum, it is bound for instant success. The all electronic tuning VRS (variable rate scanning) and associated microphone remote tuning gives the operator complete and precise control.



ASTRO 150



102 BX

Standard features include, full or semi break-in selectable in CW mode, narrow band CW filter, USB/LSB, memory, VOX/PTT, and WWV reception. NASA (National Aeronautics and Space Administration) has already ordered the ASTRO-150 and 1500Z linear amplifier combination.

A second state-of-the-art HF amateur transceiver, the 102-BX, is to be announced at the Dayton Hamvention. This unit offers complete base station capability in one chassis. Features include all the standard functions provided by top line equipment plus dual PTO's for true crossband operation — full/semi break-in, variable RF band-pass, —IF gain—, RF gain and audio passband display.

### TRANSMITTER SPECIFICATIONS

**Power Output Rating**  
Minimum 100 W PEP single sideband and CW All Bands @ 1.8 VXR: nominal to 20 ohm resistive load.

**Unwanted Sideband Suppression**  
Greater than 60 dB.  
**Carrier Suppression**  
Greater than 50 dB.

#### STANDARD FEATURES:

- State-of-the-art design
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- Operates from 11 to 15 VDC source negative ground
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80 meters (3.5 — 4.0 MHz)  
40 meters (7.0 — 7.5 MHz)  
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15 meters (21.0 — 21.5 MHz)  
10 meters (28.0 — 29.0 MHz)

#### Extended Frequency Coverage

500 KHz segments of 10 meter band 28.0-28.5 29.0-29.5 29.5-30.0 Hz replacing standard crystal with optional crystal for desired segment. No realignment required.

#### Modes of Operation

USB, LSB, CW

#### IF Filter

9 MHz quartz crystal filter, 2.7 KHz bandwidth, 3.7:1 shape factor

#### Calibrator

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#### Noise Blanker

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#### Mobile Mount

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DEALER ENQUIRIES  
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# REMEMBRANCE DAY CONTEST 1979 — RULES

11-12 AUGUST 1979

A perpetual trophy is awarded annually for competition between Divisions of the Wireless Institute of Australia. It is inscribed with the names of those who made the supreme sacrifice and so perpetuates their memory throughout Amateur Radio in Australia.

The name of the winning Division each year is also inscribed on the trophy and, in addition, the winning Division will receive a suitably inscribed certificate.

## OBJECTS

Participants in each VK call area will endeavour to contact other amateurs:—

1. In other VK call areas, P29, and ZL on all bands 1.8 through 30 MHz.
2. In any VK call area (including their own), P29, and ZL on authorised bands above 52 MHz and as is indicated in rule 5.

## CONTEST DATE

0800Z 11 August 1979 to 0759Z 12 August 1979.

All amateur stations are requested to observe 15 minutes silence before the commencement of the contest on Saturday afternoon. An appropriate broadcast will be relayed from all Divisional stations during this period.

## RULES

1. There shall be 3 sections —

- (a) Transmitting Phone.
- (b) Transmitting CW.
- (c) Receiving.

However separate logs may be submitted for sections (a) and (b).

2. All Australian Amateurs (VK call signs) may enter the Contest, whether their stations are fixed, portable or mobile. Members and non-members of the Wireless Institute of Australia are eligible for awards.

3. Amateurs may use the following modes:—

- Section (a) — AM, FM, SSB, TV.
- Section (b) — CW, RTTY.

However separate logs may be submitted for sections (a) and (b).

4. Cross mode operation is permitted but both stations may only claim points as for a phone/phone contact. Cross band operation is not permitted excepting via a satellite repeater.

5. SCORING CONTACTS:

- (a) On the 3.5, 7 and 14 MHz bands a station in another call area may be contacted once on each band using each mode. That is, you may work the same station on each of these bands on Phone, CW, SSTV and RTTY.

- (b) On the 1.8, 21 and 28 MHz bands, a station in another call area may be contacted twice on each band, using each mode provided that not less than 12 hours has elapsed since the previous contact on that band using that mode.

- (c) Between 1600 hours GMT and 2100 hours GMT on Saturday, intra-call area contacts may be made on the 1.8, 7, 21 and 28 MHz band once for each mode on each band.

- (d) Between 0300 hours GMT and 0759 hours GMT on Saturday, intra-call area contacts may be made on 1.8, 21 and 28 MHz bands, once for each mode on each band.

- (e) On the bands 52 MHz and above, the same station in any call area may be worked using any of the modes listed in rule 3 at intervals of not less than two hours since the previous same band/mode contact. However, the same station may be contacted repeatedly via satellite not more than once by each mode on each orbit.

- (f) All CW/CW, SSTV/SSTV and RTTY/RTTY contacts count double. Note rule 4 re cross mode contacts.

6. Multi-operator stations are not permitted (except as in rule 7), although log keepers are allowed. Only the licensed operator is allowed to make a contact under his/her own call sign. Should two or more licensed operators wish to operate any particular station, each will be considered as a contestant and must submit a log under his own call sign.

7. Club stations may be operated by more than one operator, but only one operator may operate at any one time, i.e. no multi-transmissions. All operators must sign the declaration.

8. Entrants must operate within the terms of their licences.

9. CYPHERS:

The serial number will consist of three figures that will be incremented by one for each successive contact. A contestant may start with any number between 001 and 999 but when 999 is reached he will start again at 001. If separate logs are being entered for sections (a) and (b) then separate cyphers are to be used.

10. ENTRIES must be set out as shown in the example using one side of the paper only. Envelopes must be marked "Remembrance Day Contest", postmarked no later than 3 September 1979 and posted to FCM, Box 1065, Orange 2800.

11. TERRESTRIAL REPEATERS: Contacts via terrestrial repeaters are not permitted for scoring purposes. However, contacts may be arranged through the repeater and if successful on another frequency, that contact counts for scoring purposes.

12. PORTABLE OPERATION: Log scores of operators located outside their own call area will be credited to that call area in which operation takes place, e.g. VK5XY/2. His score is added to the VK2 scores.

13. All logs shall be set out as in the example shown and in addition MUST carry a front sheet showing the following information in this order:

Section, Score, Call Sign, Modes, Name, Address.

Declaration: "I hereby certify that I have operated in accordance with the rules and spirit of the contest."

Signed

Date.

14. The Federal Contest Manager has the right to disqualify any entrant who, during the contest, has not observed the regulations, or has consistently departed from the accepted code of operating ethics. The Federal Contest Manager also has the right to disallow any illegible, incomplete or incorrectly set out logs.

15. The ruling of the Federal Contest Manager of the WIA is final and no disputes will be entered into.

## AWARDS (Sections (a) and (b))

Certificates will be awarded to the top scorer in each section for each call area and will include the top Limited and Novice station. There will be no outright individual winner. Further certificates may be issued by the FCM at his discretion.

The Division to which the Remembrance Day Trophy will be awarded shall be determined by the following formula:—

Total call area score from sections (a)-(c) of rule 1 multiplied by the number of full call logs received from that area and divided by the number of full licences in that call area.

## EXAMPLE OF TRANSMITTING LOG

Date/time GMT	Band	Mode	Call sign worked	NR sent	NR rec'd	Points
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## EXAMPLE OF RECEIVING LOG, VICTORIAN SWL

Date/time GMT	Band MHz	Mode	Call sign heard	NR sent	Station called	Points
12/8/78						
0612	7	P	VK6PS	58002	VK5RU	2
0615	7	CW	ZL2AZ	559004	VK4KI	6
0618	14	P	VK0ZZ	57006	VK6FI	6
1620	28	P	VK3NAA	59077	VK3NZ	1

## SCORING TABLE FOR PHONE CONTACTS — ALL CW/CW, SSTV and RTTY CONTACTS COUNT DOUBLE (VK)

From	0	1	2	3	4	5	6	7	8	9	P29	ZL
VK0	—	6	6	6	6	6	6	6	6	6	6	6
VK1	6	—	2	3	3	3	4	3	4	5	5	3
VK2	6	2	—	2	2	3	4	3	4	5	5	3
VK3	6	3	2	—	3	2	4	2	5	5	5	3
VK4	6	3	2	3	—	3	5	5	2	4	2	4
VK5	6	3	3	2	3	—	2	3	3	5	5	4
VK6	6	4	4	4	5	2	—	3	2	5	5	5
VK7	6	3	3	2	5	3	3	—	5	5	5	3
VK8	6	4	4	5	2	3	2	5	—	2	2	4
VK9	6	5	5	5	4	5	5	5	2	—	5	4
P29	6	5	5	5	2	5	5	5	2	5	—	4
ZL	6	3	3	3	4	4	5	3	4	4	4	—

All intra-call area contacts on 52 MHz and above, or as indicated in Rules 5 (c), (d) and (e), are worth one point.

VK0 scores are added to VK7 and VK8 to VK5. Scores by VK9 stations are added to the mainland call area geographically nearest. Scores claimed by ZL and PZ call areas are not included in the scores of any VK call area.

Acceptable logs for all sections shall show at least 10 valid contacts. The Trophy shall be forwarded to the winning Division in its container and will be held by that Division for the specified period.

#### RECEIVING SECTION

1. This section is open to all Short Wave Listeners in Australia, Papua, New Guinea and New Zealand, but no active transmitting station may enter.
2. Contest times and logging of stations on each band are as for transmitting.
3. All logs shall be set out in the example. It is not permissible to log a station calling "CQ". The detail shown in the example must be recorded.
4. Note the times and conditions set out in rule 5 (transmitting).
5. Club stations may enter this section. All operators must sign the declaration.

#### AWARDS

Certificates will be awarded to the highest scorers in each call area. Further certificates may be awarded at the discretion of the Federal Contest Manager.

## YOU and DX

Mike Bazley VK6HD

6 James Road, Kalamunda W.A. 6076

#### CHAIN LETTER

Have you recently received the lucky recipient of a chain letter that originated from the USA? This writer to date has received three, all from other amateurs who have never been contacted before on the air. Why send them to me? The letter states that if I continue the chain (which is reserved for amateurs only) then I will be receiving upwards of several thousand dollars in the future. There is only one way to deal with these sort of letters—file them in the WBP after removing the stamps of course if you are a philatelist like me! The old proverb always holds true: You don't get something for nothing.

#### QSLs

What is a QSO? Well, if you chase DX and submit your QSLs to ARRL, did you know that they note whether the cards have your call sign on plus date, time and mode, the report is unimportant. This was confirmed by the ARRL to 6HD way back in the late 50s when a QSL was submitted with a 3 and 1 report on it. Previously I had always thought that the minimum report required was 3 and 3 or 339. If you get your call put on a list and the MC passes the list to the DX station, have you made a QSO? The DX station now has all the necessary information so why repeat it!

The Warrington and District ARS will be operating under the call GTACDA (special IOM prefix) from 1st to 4th July on all HF bands. They ask that all QSLs be accompanied by at least 1 IRC and proceeds from the DXpedition will go to charity. The QSL QTH is PO 58, Isle of Man.

#### 10 METRES WAS NET

Pat VK3OV passes on information that will be of value to anyone chasing WAS on 10 metres. A WAS net meets every Sunday on 28525 kHz plus/minus QRM at 2000 GMT.

#### SV NET

For those VKs who originally hail from SV land is a Greek International net operating on 14265 kHz at 0900, 1300 and 2000 GMT with an alternative frequency at 0500 of 14105 kHz, plus or minus QRM.

#### QSL MANAGER

Ken VK3AH mentions that Mary Anne Grider WA3HUP, of RD2, Box 5A York Haven, PA 17370, is QSL manager for CE0AE, CN8AK, CN5CW, CT1BY, CT1K, CT1OP, JY1, KP3KK, M1B, OY5J, T28SC, ZF5YW, 3A2CP and VE3RWK/AX. This writer can confirm, from personal experience, that Mary Anne does a fine job in handling the QSL problems for the above stations.

#### PACIFIC DX NET

A reminder to readers that the Pacific DX Net (one of the better run nets) is still going strong Tuesdays and Fridays 14205 kHz at 0600 GMT; VK, ZL and Pacific Stations always welcome.

Unfortunately, the time of the net prevents most VKs from participating (1400 local), unless one is on holiday or retired.

#### "SURE QSL"

During a recent QSO on 10 metres, APK5 told this writer, who had requested QSL information, that he did not QSL, so please do not send a card. I do collect QSLs myself but to be honest I was pleased that I got a truthful response. There is no requirement on any amateur to QSL if this part of the hobby does not interest him. My main grumble is against those amateurs who say "sure QSL" when asked and never do.

#### NEW PREFIXES

Evan VK3ANI has supplied me with the information on those new prefixes emanating from the USA and their possessions. To quote from VK3ANI's letter:—

Call signs that were issued before the new system can be retained hence KG6 and KH2 are both from the same area.

(H) Pacific Ocean based US territory:

AH1, KH1, NH1, WH1: Baker, Canton, Enderbury and Howland Is.  
AH2, KH, NH2, WH2: Guam.  
AH5, KH5, NH5, WH5: Johnston Is.  
AH4, KH4, NH4, WH4: Midway Is.  
\* AH5, KH5, NH5, WH5: Palmyra and Jarvis Is.  
AH6, KH6, NH6, WH6: Hawaii.  
AH7, KH7, NH7, WH7: Kure Is.  
AH8, KH8, NH8, WH8: American Samoa.  
AH9, KH9, NH9, WH9: Wake, Wilkes and Peale Is.  
AH0, KH0, NH0, WH0: Northern Marianas.

\* If the suffix begins with a K then it is the Kingman Reef, i.e. AH5K, KH5K, NH5K and WH5K.  
AL7, KL7, NL7, WL7: Alaska.

(P) Caribbean Ocean locations note that AP is not allocated as it belongs to Pakistan.

KP1, NP1, WP1: Navassa Is.  
KP2, NP2, WP2: Virgin Is.  
KP3, NP3, WP3: Rancador Key, Qiliia, Sueno Bank and Sanrallia Bank.  
KP4, NP4, WP4: Puerto Rico.

Other US possessions, such as the Marshall Islands, are not under FCC control so they retain their old call prefixes.

All the mainland prefixes remain the same but more have been added from the block AAA-ALZ, which is allocated to the USA, i.e. AA, AB, AC, AD, AE, AF, AG, AI, AJ and AK are all mainland USA prefixes.

ITU allocations for USA are: AAA to ALZ, KAA to KZZ, NAA to NZZ, WAA to WZZ.

The exception to the rule (7) is KA2 to KA9, US Military people in Japan.

#### VR6

I trust that all have managed to get VR6 in the log. The operation by VR6HI and VR6SD should have helped many, myself included.

Does anyone have QSL information on FG6DYM/FS7 recently QSO'd on 3.5 and 14 MHz CW?

#### SPRATLEY

Congratulations are due to the Spratly Island operation—at least as far as VK was concerned. Harry VK2BJL made the effort to work as many VKs and ZLs as possible—thanks. There were criticisms of this DXpedition from the States and Europe because it was thought that too much attention was paid to working JAs and the Pacific Area. We do know that the DXpedition had real problems in landing on one of the Spratly group. We don't know what propagation conditions were like for them, but it should always be remembered that operating con-

ditions are always better from a comfortable shack than from a tent being invaded by bugs, mosquitoes, etc.

#### BITS AND PIECES

9N1BMK has been very active lately, being heard/worked on 14-28 MHz. Says QSL via JARL or JABBMK. Seems genuine.

Remember how easy it used to be to work into CR6 (Angola)? Well it appears that once again there is activity from this location. OK3TAB/OZA has been heard on 20 SSB, QSL via OK bureau.

YI4SC showed on 20 SSB in early April (QTH in list). This writer was one of the lucky ones, getting a QSO on 14245 at 2240 GMT. If you need it this might be worthwhile checking with one of the Arabian stations active at the moment or checking into the Arabian Knights net, which meets on a Friday night 1400 GMT, often around 14190 kHz.

With winter approaching it should be worthwhile checking 40 and 80 metres at sunset for some of those South American countries.

With the darkness path is at its optimum. Rumours have it that there may be some activity, during the northern summer months, from Abu Ali in the Red Sea. The rumour has it that J2BAZ may be active from there.

A further thought on the European summer. Remember during their summer months, June/August, a lot of amateurs make their way to such spots as 3A2, LX, SV, MI, CHD, HB0, etc., for their summer holidays. If you need any of these it is worth looking on the usual DX frequencies, e.g. 14195, 21295, 28500 and 14025, 21025 and 28025, as these sort of semi-DXpeditions are not usually publicized in advance.

#### FROM THE WEST GULF DX BULLETIN

Ex EP2LI should be moving to ATX Qatar shortly. HB9AFN/BY has been heard on 21155 from 1400Z. The station is located at the Swiss Embassy in Peking. It is rumoured that a Swedish group may put the call ZL on the air from Albania. (Watch those DX frequencies.) CE8AT, South Shetlands, is active on 20 SSB, QSL via CE2BIO, W9GW should be QRV from FW8 during the month of June, mostly on CW.

Well, that's the lot for this month; many thanks to VK3AH, VK3ANI, VK3OV, VK4KJ, VK6AJ, VK6LK and the West Gulf DX Bulletin. My deadline for the August issue is Tuesday, June 26th.

#### SWLs

When one reads a column on DX and DX happenings, I suppose most people tend to think that it only applies to transmitting amateurs. This I think is a pity. Once upon a time the natural progression to a "racket" was by becoming interested in the hobby through being a SWL. What has happened to the SWL fraternity? Contrary to the thinking of some, I believe the SWL has an important part to play in the amateur DX scene. For myself welcome receiving a useful SWL report, particularly when it tells me something I didn't know or for example being heard in a particular part of the world when I thought my signals were not getting out.

The Australian SWL is in a unique position, in that a large number of DX chasers are keen to work VK, particularly on the LF bands. SWL reports could and should be able to provide useful information and for the sender there is the satisfaction of a QSL received in return. (Yes I do QSL all SWL reports received.) By the way, SWLs could also provide another service by letting this writer know what you've been hearing. It could be of interest to us all.

Whilst on the subject of SWLs, readers may be interested to know that the "G. Watts News Sheet", which used to be published by Geoff before his recent illness, is being distributed by the RSGB. Geoff still writes the news, but has given up the onerous chore of printing and distributing the weekly news sheet. Anyone interested in receiving further information could write to RSGB, 35 Doughty Street, London, WC1N 2AE, enclosing return postage. For those for whom the name does not ring a bell, suffice to say that Geoff Watts has been a life long SWL and at one time his news sheet was the most widely quoted DX information source of amateur radio magazines.

## NEWS, NOTES AND RUMOURS

WB80GG/KHT, Kure Island, 14310 or 14345 kHz list operation scheduled to be active from Kure for 12 months.

Prefixes: J6 is St. Lucia (ex VP2L), J7 is Dominica (ex VP2D), 6T1 and 6U1 are Sudan (ST). Argentinian stations LU-2A, ZG, ZM are South Orkneys, ZY South Sandwich, ZT South Shetlands, other LU-Z stations are on Antarctica.

For those working AUTUN, this writer had a QSL back within 14 days by QSLing via W2MZW.

If you have not worked Seychelles, S79, it is suggested that you make the effort as no new licences are being issued. S79WHW is quite active on 14 MHz SSB.

Rumour has it that Mount Athos, SY, is on the cards during the Northern Summer (June/August). Groups from DL, SM and SV are known to be interested.

CE0AE Father Dave Reddy should be a powerful signal on the bands as the North Californian DX foundation has shipped him a linear. Pity Dave doesn't do a little bit more CW operating as he is usually found on SSB. On the very few occasions that he has been heard (worked here on CW, always on SO) he has shown that he has an excellent list.

DE5XG/A was putting a good signal into VK6 on 10 metres during their recent DXpedition. QSLs go to WA3HUP. (Full QTH in last month's AR.)

VR6HI rattled up 33,115 QSOs from Pitcairn made up of 170 on 160m, 760 on 80m, 2,095 on 40m, 8,910 on 20m, 9,395 on 15m and 10,885 on 10m. It is reported that the stack of QSLs received is now nearly 15 feet tall!

The new operator at ZS2MI is ZS6BEE, who asks for QSLs via ZS6APO. He has been working on 14 SSB and CW.

TD2HH was heard the other day on the P2B3S net on 14220 kHz. Quite good signals into VK6.

UK1PAA Franz Joseph land is reported active again on 20 and 40 CW. It is hoped that SSB gear can be shipped there before the Northern Winter sets in.

Rumour has it that Sable Island (VK) will be activated by a group of VEs some time in July or August.

If you QSOd WA6EWI/T19 recently, very ORV into VK on 15m SSB, QSLs go via WEXW, Box 717, Oakland, California 94604.

Burundi is once again on the DX map, GUSAN has been heard on 20 CW asking for QSLs via OZ2DX.

SVJ1J is scheduled to open up from Crete any time now as SVJ1J. The lucky ones will be able to QSL him via Box 502, Iraklion, Crete.

Those looking for Tunisia would be advised to check the low end of 20 around 0800Z when SV6AA often shows. Has been heard/worked on 14003 listening 5 up. QSLs via IS0LYN.

The new operator at LU3ZY has been heard in the States on 7007 kHz at 0000Z. He asks for QSLs via LUZCN.

If you hear TH5JM don't think you have caught a pirate. This call has been issued to John Montague, who is the communications officer in Bangui, Central African Republic.

There is still no news of anyone receiving a QSL from the recent Descheche, KP4AM/D operation. The rumour mongers are saying that this operation is not now acceptable for DXCC. Time will tell!

Did you work OZ2AZB between 11-11-75 and 15-12-75? A QSL can be obtained from PVSWD, PO Box 63, 80,000 Curitiba Pr., Brazil.

Don't pass VR1BE by if you need British Phoenix Islands. Apparently the previous method of allocating calls in the VR1P series has been discontinued. QSL to Box 1337, Canton Island, 96736, via Hawaii.

6T1YP heard on 28800 at 0750 working into JA this is Sudan.

TZAA, a YL operator, ORV on 14190 kHz at 1110Z.

UOCR is part of a skiing expedition to the North Pole. Often ORV on 14193/14195 kHz. SSB test reports put them more than 80 degrees N. SV5JH ORV from Rhodes often on 15 SSB. QSL via DJ9JB.

Thanks go to VK4KX, VK4SS, VK6AJ, VK8LY, on air reports, "West Gulf DX Bulletin" and G. Watts News Sheet. Happy Hunting, 73. Mike VK6HD.

My deadline for September issue is July 26th.

## "GHAN" RAILWAY-MOBILE EXPEDITION

A railway-mobile DXpedition is planned from Maree, SA, to Alice Springs, NT. The event, which should take place before the end of September, is to celebrate the Golden Jubilee of the first rail link to Alice Springs. Frequencies in use will be around 3500, 7100, 14270, 21150 and 28400 kHz. Special QSLs will be printed for the occasion.

The station will operate from the famous "Ghan", which departs from Maree at 14702 Monday night local time, arrives at Alice Springs 2130Z. It departs Alice Springs 1030Z Wednesday night and arrives back at Maree 1945Z (0515 SAT).

Zone 29 Boundary Award hunters will be interested in this event. Unfortunately confirmation of approval from the Commonwealth Railways for the venture is not yet at hand and so firm dates cannot yet be given. Details will be given in WIA broadcasts when available.

(Information supplied by Dick VK5DJ.)

73 es DX de Mike VK6HD.

## QTHs YOU MAY HAVE MISSED

CP5GK — Box 2659, Cochabamba.  
FH82 — PO Box 20, Matotte, via Reunion Island.  
H7L — Box 3640, Magagnu.  
KH3AA — via K2VY, San Francisco, U.S.A.  
K2SBU — via WOPAH.  
O4U1 — Box 538, Lima.  
OD5LX — via SM0GMO.  
OH2BP/OH0 — PO Box 928, 00101, Helsinki 10.  
VP2DD — via W2OB.  
VP2MOQ — via K2VY.  
VR6DX — via WOPAH.  
VR6HI — via ZL1ADI.  
VS500 — via N200.  
XE1FR — via W5OK.  
Y14SC — via PO Box 5846, Baghdad.  
Y1T1FMQ — Box 4272, Managua.  
ZP2CL — via K2VY.  
Z1DIX — VK2BJL, Box 85, Round Corner, NSW 2158.  
Z5H3GK — via SMSAIVO.  
9N1BMK — via JABBMK.  
9XSPM — PO Box 863, Kigali, Rwanda.

ASCS — via K4CG.  
AP5HQ — via N0RR.  
CM2HB — via ON5LY.  
FK8CR — via W7OK.  
FP8HL — PO Box 99, Saint Pierre et Michelon, North America.

GUSCIA — via N8MA.  
HMSAP — via J4NPP.  
H21HZ — PO Box 1999, Jeddah.  
J6LD — via K4MZE.  
JDD — via W2OB.  
JR1ERE/JOT — via JR1FYS.  
NSRM/KCSE — via NSRM.  
KX6BQ — via W5IL.  
ODSNN — PO Box 7188, Beirut.  
W4JRL/SU — via W8LZV.  
SU1DP — PO Box 138, Ismailia, Egypt.

SV2AL — via K4MT.  
TFSTP — via DL7MQ.  
TK2TU — via F6DQ.  
TK3TU — via F8OP.  
TK6TU — via F6KPH.  
TK3TU — via F8RM.  
VS500 — via N200.  
VU2LHD — via American Embassy, New Delhi.  
Y8OATD — PO Box 2634, Jakarta.  
F6K8J/398 — via F5EKB.  
5W1BX — via WOPAH.  
9N1BM — PO Box 131, Kathmandu.

## QSP

### OVERSEAS LICENCE STATISTICS

As at 31st December each year the UK total licence figures for 1978 was 24,711, for 1968 it was 17,338, for 1958 the total was 1,116. The 1976 figure was 29,062, which included 4,656 mobile licences — the present licence combines both fixed and mobile licences into one licence. Radio Communications May 1979.

## MAGAZINE INDEX

Syd Clark, VK3ASC

### BREAK-IN March 1979

3.5 MHz Direct Conversion Transceiver; Modification of Pye Cambridge AM100 for 144 MHz; Speech Processing; Yaesu FT227R Memorial; Pye Cambridge AM100 Circuit.

### BREAK-IN April 1979

Plessey SL600 Transceiver Linear Amplifier and RF Preselector; 1 MHz Time Base Oscillator and Power Supply; 2 Metre Yaesu FT227R Memorial.

### QST February 1979

Introducing the INCONS; Upgrading Your SB-220 Linear Amplifier; A First-Class Touch Tone Encoder; A 24-Hour Clock Bonus from the Accu-Memory; A Noise Blanker for the Collins S-Link; A 40 Metre Midgate; Digitized Speech, Part 2; Circular Orbits with Simple Computing Systems; Antenna Accessories for the Beginner; Why QSK?; QRN Communication — Myth or History.

### QST March 1979

The Code Speedometer; A CMOS Control Circuit for Repeaters; JFET "Sow" for Tired Receivers; A Simple 10 and 15 Metre Converter; A Graphical Look at the L Network; Matching Network Design; Zip-Cord Antennas — Do They Work? Toward Cleaner Local-Oscillator Chains — Spectral Purity; ARES and You; Saturday Morning Follies; 1978 CAN-AM Contest Results; April CD Party — All ARRL Members; FMT Results; RFI — Let Your Voice be Heard; Hams can Influence FCC's RFI Inquiry; ITU Lays Technical Foundation for WARC 79.

### QST April 1979

A Low-Cost PC-Board Duplexer; The SHARD Audible Current Meter; The Whys and Hows of Bitfall Filterbank Chokes; Save Money — Build Your Own RF Choke; A Big Signal from a Small Lot; Some Commonly Asked Technical Questions and Their Answers; A Simple CW Audio Filter; Putting the Boots to Your HW-8 CRP Transceiver; Amateur Radio at the Bottom of the Earth; Public Service Before Disaster Strikes.

### RADIO COMMUNICATION MAY 1979

A Frequency Counter for a 144 MHz Transmitter; An Inexpensive High-Z Accurate Transistor Voltmeter; A Modification to the G3ZSS Digital Morse Code Generator; The "Miracle" Sky Hook.

## CONTESTS

Wally Watkins VK2ZNV/NCU  
Box 1065, Orange 2900

July: 14/15 IARU RADIOSPORT CHAMPIONSHIPS

August: 11/12 REMEMBRANCE DAY CONTEST

11 ZL QLF PARTY

October: S/7 VK/ZL/OCEANIA DX CONTEST PHONE

13/14 VK/ZL/OCEANIA DX CONTEST CW

Contestants are reminded to read the rules for the "RD" contest carefully this year as certain changes have been made. Logs without a front-sheet will be automatically disqualified, as will unsorted logs.

### EXPIRY OF LICENCE

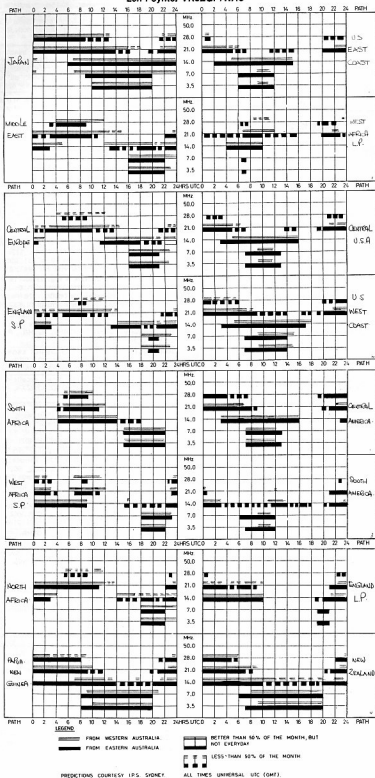
Ham Radio April 1979 quotes the FCC as now allowing amateurs whose operators' licences expire five years instead of one year in which to renew them without taking the examinations.

### US LICENCE FIGURES

April 1979 QST quotes the FCC as having 356,338 amateur licences issued by the end of 1978, representing an 8 per cent increase over the end of 1977 figures. Novices represented 62,856 of the total.

# IONOSPHERIC PREDICTIONS

Len Poynter VK3ZGP/INAC



## AWARDS COLUMN

Bill Verrall VK5WV  
7 Lilac Ave., Flinders Park, SA

### NEW AUSTRALIAN AWARD

I have received details of a new award available in VK and issued by the Royal Naval Amateur Radio Society. The Society already sponsors two awards, the "Mercury Award" for contacting members of the Society, and the "Hampshire Award" for contacting amateurs in the English County of Hampshire.

The Society has announced a third award called the "Endeavour Award" for contacting Society members residing in Australia. The title of the award links the Royal Navy with Australia.

### RULES OF THE "ENDEAVOUR AWARD"

1. The name of the award shall be the "Endeavour Award" and shall be open to all radio amateurs.

2. Applicants must establish two-way amateur communications with RNARS members residing in Australia. Points will be awarded on the basis of one point per VK RNARS member worked per band after the commencement date of January 1st, 1979.

To qualify, the following is required—

For amateurs residing in Australia: 15 points.  
For amateurs residing inside Oceania: 10 points.  
For amateurs residing outside Oceania: 5 points.

In addition, for amateurs residing outside Oceania, contacts with VK RNARS members on the 3.5 MHz band will count double points. For the purposes of this award, any RNARS maritime mobile member when located inside Australian waters may be counted as a VK member.

3. The award will be endorsed only on the request of the applicant and the following endorsements are available: "ALL CW", "ALL SSB", "ALL 3.5 MHz", "ALL 28 MHz", "ALL NOVICE", "FIVE BY FIVE". The last endorsement is for gaining at least five points on each of the five high frequency bands.

4. To claim the award, no QSLs are required. However, full log details showing the VK member (OR/MM plus QTH) worked, their RNARS number, date, time, frequency, mode, plus an application fee of \$1.50 Aust. or 7 IRCs are to be sent to the Endeavour Award custodian, Mr. R. Baty, 43 MMAS Australia Road, Henley Beach South, SA 5022, Australia. Please ensure all cheques are in Australian currency and are made payable to "R. BATY". Clearly state what endorsements are claimed. Certificates to successful applicants will be forwarded by airmail as soon as possible after the claim has been checked.

The certificate measures 250 x 195 mm, printed in three colours on high quality parchment. Society name and logo in royal blue, title in deep red, remainder black.

VK RNARS lists are available from the custodian or the Australian organiser, or use the general RNARS list from G3HZL-QTHR.

### NEW EUROPEAN AWARD

"Brussels Millennium Award."

The Brussels Millennium Award committee has announced that this award will be issued on the occasion of the Brussels Millennium Celebration (1979-1979), which commenced on 1st January, 1979, and continues to 31st December, 1979.

Contacts must be made with amateur stations from Brussels with the special prefix OS (1, 4, 5, 6, 7, 8). Contacts can be on any authorized mode in the bands 3.5 to 29.7 MHz. Operators from VK are required to work 10 stations from Brussels. The award is also available to SWLs, who must submit reports of 10 QSOs between stations from Brussels and outside Brussels. Contacts during contests are not valid.

To obtain the award, forward a log extract and 3 IRCs to Brussels Millennium Award, PB 1000, B1040, Brussels 4, prior to 15th February, 1980.

## INTERNATIONAL AMATEUR RADIO SOCIETY

Allen Smith VK2AIR, the secretary of CHC Chapter 66, Australia, has advised that the founder and executive general manager of IARS, Cliff Evans K5BX, passed away on Friday morning, 30th March, 1979. All condolences may be addressed to Mrs. Evans as follows:—M. Jolly Evans, 3212 Mesa Verde Road, Bonita, CA, 92002, USA.

Allen will advise all Chapter 66 members when a replacement appointment has been made to the position. Any enquiries concerning IARS matters should continue to be directed to Allen at 111 Northcote Road, Seven Hills 2147, NSW.

Good hunting.

## LUZY2

I have previously accepted a few QSLs from this station for DXCC credit for the South Sandwich Islands. I have now rescinded credits given for LUZY2 and will not accept any further QSLs for this operation for the following reasons:—

- The QSL does not strictly comply with paragraph 4.3 of our DXCC rules in that it does not show "the location or address of the station at the time of contact", and
- Advice contained in the February 1979 issue of the RSGS "Radio Communications" is that LUZY2 was operating from Thule Island, which is a dependency of Falkland Islands, which is a crown colony. The unlicensed amateur radio station on Thule Island using the call sign LUZY2 is therefore illegal. (Presumably he should have had a VPS call (Sorry fellas.)

## VE1MTA — SABLE ISLAND

It is now confirmed that the ARRL will not accept QSLs from this operation for DXCC credit. All credits previously given have therefore been rescinded. See my notes in June AR.

# BOOK REVIEW

## TELEVISION INTERFERENCE MANUAL —

### SECOND EDITION

By B. Priestley.

Published by Radio Society of Great Britain.

The Television Interference Manual provides a comprehensive coverage of this problem which all amateurs have at one time or another.

Chapters cover the causes, cures and social aspects of this problem. The causes and cures are useful but the social side or how to deal diplomatically with neighbours is most important.

The usual causes are dealt with, although in some places the book of necessity uses the UK TV channels which are arranged a little differently to ours.

Similarly, there is little treatment of 300 ohm ribbon feeder. This is only a slight disadvantage as newer systems are using coax increasingly and the cures used for 300 ohm line are similar to those used with coax.

Another minor grouse is with the treatment of receiver radiation causing TVI. The RSG is now a rather old receiver and the newer FRG7, Barlow-Wadley, SSR1, and standard receivers are all good candidates to cause TVI due to the first oscillator in the Triple Mix Scheme used.

The book, however, provides a very good coverage of a most difficult and wide ranging subject. A definite must on the bookshelf of any ham shack. Available from Magnums.

VK3AUJ.

## LEARNING MORSE CODE

By Rex C. Black VK2YA.

This booklet is designed to accompany a set of Morse practice cassettes produced by the Wireless Institute of Australia, NSW Division, Education Service.

The booklet is useful in that it explains many points on learning the code and helps the beginner to avoid the pitfalls.

The book is aimed at helping students to attain novice standard. All Morse code students must go through this even if aiming for higher speeds. The booklet points out the essentials of receiving and sending good Morse.

Simple procedural signals are covered, along with the alphabet and the numbers. These are important to a beginner as they are in constant use but are often left out of many simple books.

An easy to follow booklet which would complement a set of practice tapes.

Available from the WIA VK2 Division Education Service, together with the Morse practice tapes on C60 cassettes.

VK3AUJ.

Sorry the wrong price got in for the right book, "Radio Frequency Interference: How to Identify It and Cure It" by ARRL, Price 24, May AR. Price should read \$3.70 plus post (150g), instead of \$2.80.

# HAMADS

- Eight lines free to all WIA members. \$9 per 3 cm for non-members.
- Copy in typescript please or in block letters to P.O. Box 150, Toorak, VIC 3142.
- Repeats may be charged at full rates.
- Closing date: 1st day of the month preceding publication. Cancellations received after about 12th of the month cannot be processed.
- QTHR means the advertiser's name and address are correct in the current WIA Radio Amateurs Call Book.

## FOR SALE

TS500 Transceiver c/w power supply, \$350; 14 AVO vert. ant., \$55; X beam, 40. VK2AGS, QTHR. Ph. (02) 438 2299 Bus., (02) 638 4191 A.H.

ICOM IC502 6m SSB Transceiver, excellent cond., with home brew 40W valve linear, 2000, VK2BHM. Ph. (02) 476 2818.

CMOS Keyer, built in paddle, dark green heavy case, variable speed, perfectly formed and spaced Morse, inbuilt switchable sidetone, hardly used, just plug into TX; built from kit but find I prefer old brass key, \$25 or offer, including circuit, battery and postage, VK2BMT, QTHR.

TS520, AC-DC, 1977 model, good cond., \$530, ONO; FT7 with car transmission hump mount, 2 months old, \$400, ONO, VK2AZT, Cootamundra. Ph. (069) 42 1392.

Heathkit SB810 Monitorscope, \$200; Drake R4C Rx with noise blander and extra struts for 160, 31, 25 and CB, \$800, VK3AIF, QTHR. Ph. (03) 857 5401.

Yaesu 101B Transceiver with CW filter; will exchange for FT7 or FT7B, or sell \$600, ONO; Icom 22 FM transceiver, sell with Ch. 4B, 50, repeater, 42, 44, 46, 48, 74, \$150, VK4PM, QTHR. Ph. (074) 62 1021.

Icom IC 280 2m FM Transceiver, power output about 15W, exc. cond., \$400. One condition — proof of a licence or operator's certificate or NO SALE. Graham VK3ZPR, Laverton. Ph. (03) 399 1937.

Two Vinten VHF FM Lo-band MTR 19 Transceivers in states of disrepair, good for rattling or maybe getting one going on 50 MHz, \$15 each. Graham VK3ZPR, Laverton. Ph. (03) 399 1937.

Urgent Shack Cleanout, Drake TAX SSB/CW 200W DC input TX and AC power supply, Drake R4A Rx with Drake noise blander and Drake filters, matching Drake MS-4 spkr, Drake MN-4 ant. matching network, wattmeter, SWR bridge, Dynamic desk mic., complete owner's manuals, mint cond., any inspection welcome, complete with new AT-4 Cuckcraft HF vert. ant. and cable, \$875; Cuckcraft ATB-34 4-el. 10-15-20m trapped yagi, best available, 18 ft. boom, 31 ft. elements, new in box, \$225. James VK3JO, Ph. (02) 399 0428 Bus., (02) 36 7756 A.H.

Mobile Antennas: RSE-2A stub for 144 MHz, RSL-3 for 80m, RSL-21 for 15m, and RSE-2 guttier mount, good cond., not used much, were \$85 the lot, sell for \$50. John Breston VK4MB, 27 Kent Ave., Brahma Lodge, 5109, South Aust.

Rx National (HRO type), with coil boxes covering 1.7 to 30 MHz, separate power supply included, \$150 or ONO, VK2VIL. Ph. (049) 97 6146.

Galaxy V Mk. 2 Transceiver, excellent cond., includes remote VFO, x cal., VOX PCB, box spare transistors and valves, some used, hand book and circuitry, \$400, ONO, to licensed amateur only. VK3QY, QTHR. Ph. (03) 93 5575.

Heath HW-8 Transceiver, 80-15m, transmits CW, receives CW/SSB, VFO control, carefully built July 1976, 12V power, suit Novice, \$180. Send S.A.S.A. for specs. and log extract. B. Willis, VK4NJB, Hunt St., Forest Hill, Q., 4342.

Collins S Line, selling out home and beach sets, 7553B/3253/516F2, 240V, 200 Hz CW filter, DX processor, \$1500; 7551/3251/516F2, 117V, \$1200; stand by 7551/3251/local 240V PS, \$1000; all clean, proven reliability. VK3SK, QTHR. Ph. (03) 527 1861.

HW32A 20m SSB Transceiver, complete with power supply, manuals, speaker, mic., spare set of matched finals, covers 14.00 MHz to 14.350 MHz in two steps, \$200, Mike VK4DM. Ph. (07) 281 0032.

FT200 with Yaesu AC supply/speaker and home brew external VFO, \$350; SL-50 audio active notch filter, \$100, VK4QK, QTHR. Ph. (07) 261 1626.

Quad 4-el. 10 and 15m Fiberglass Spreaders, \$200; FT7 Yaesu mobile, 3 weeks old, \$360; 50 ft. telescopic tower (Hills), \$60; VK4NML, Lot 226 Roderick St., Loganholme 4129. Ph. (07) 229 8575.

Uniden 200 Transceiver, 80m to 10m, very little use, incl. spare finals, \$475; Oster-Block SWR/power meter, \$45. VK3ZVB, QTHR. Ph. (03) 703 1335.

Heath SB300/SB400 matched Rx/Tx, spare valves, plus manuals, excel. cond., all leads, \$325, ONO; Icom IC22 R1 to 10, Simplex 40, 50, 51, plus odds, new cond., \$145. VK2HZ, QTHR. Ph. (047) 51 1724.

SE502 22 Channel CW, CB Rig, 28.300 to 28.600, only 30 contacts, new, \$150, selling \$100; includes mic., AC and DC controls. VK4NGG, 378 Pease St., Egevale Hill, Cairns, Qld. 4870. Ph. (070) 53 1445.

Kyokuto 2m FM Transceiver, 800 channels synthesized, all accessories, manual, as new, \$255; free delivery Sydney, VK2BHC, QTHR. Ph. (06) 24 1447 A.H., (06) 21 2211 Bus.

Icom IC 701, as new, still in original carton, incl. mic. and inst. book, etc., \$1,100. Cliff VK2VK, Ph. (065) 52 4477 Bus., or (065) 59 1508 A.H.

Icom IC245 with SSB adaptor fitted, excellent cond. in original packaging, \$490, ONO. VK2ZXR. Ph. (02) 869 2695.

Yaesu FRG7 Comm. Rx, as new, 12 months old, \$250, ONO; Stromberg-Galton short wave and BC band Rx type 5V15, WWII vintage, complete but not working, any offers. Write VK2VL, 61 Arthur Street, Forestville, NSW 2087, or ph. (02) 452 4302.

Triox R9 9R-500, \$500; Tech tradipor GDO TE15, \$25; Leader sig. gen. LSG11, \$25; Ferrocat TVM (1500V), \$25; power transformers 500V, 660V, 800V and 1500V, each side of CT 300 mls., \$9 ea. VK2YZ, QTHR. Ph. (02) 661 3622.

Notice to Full Call Technical, 500 questions, new book, just what you need for the next exam, \$2.50 posted, the latest from K. Wilson, WIA VK2 Education Service, PO Box 109, Toongabba 2146.

THE DX Beam, \$150. VK3SK, QTHR. Ph. (03) 527 1861.

Autec Audio Active Filter QFI, selectivity, notch, and band pass ranges, \$70. B. Bathols VK3VU, QTHR. Ph. (03) 90 6424.

FTDX401, new spare lines, Shure mic., good order, \$400, VK5OT, QTHR. Ph. (08) 261 5051.

Microprocessor Course and Hands-on Trainer, sure way to learn machine language programming and interfacing, mint cond., Heathkit EE3401 course, ET3400 trainer, \$350, ONO; Kyokuto FM144-105XHH Handbook, mic., mobile and shack mounts, 1/2 wave whip, little used, \$200; Atk 4000DS Mk. II stereo rec'd recorder, little used, inc. couple tapes, \$200, ONO; all items must go! VK2BXP, QTHR. Ph. (02) 888 2841 A.H.

Kenwood TS620, with factory installed digital readout, CW filter, DC/DC conv., ext. VFO (VFO 820), a fine unmarked rig for a discerning amateur. In original carton, reluctant forced sale, \$1,000. B. Bathols VK3VU, QTHR. Ph. (03) 90 6424 A.H.

The Famous Novice Kit, contains more theory, tests, answers and 120 typical airtel questions and 155 paged K. Wilson, WIA VK2 Education Service, PO Box 109, Toongabba 2146.

**Yaesu FT101B** 80-10m, \$500; **FV101B**, \$100. **V4K4TT**, 1724 Mt. Cotton Rd., Burbank, Qld. Ph. (07) 390 2810.

**Trio TS500 80-10m HF Transceiver**, ex. cond., rarely used, with manual, \$400. **ON0**, VK2ZSC. Ph. (02) 674 2104, Steve, after 1730 EAST.

**Learning Morse? Need a Set Speed Tap?** You nominate any speed between 4-20 w.p.m., we will send you a C60 tape for \$2. **Fred Santos**, VK2 Education Service, 8 Cooper Street, Blacktown 2148.

**FR-101 Digital Yaesu Rk**, mint cond., all modes, SSB, FM, AM, RTTY, CW, all static, built-in 6 and 2m converters, coverage 150-2m, plus major S/W bands; Yaesu's top line Rk, \$900; will take FT7, FT620B or Barlow-Wadley XCR-30 Rk as part payment. **V4KJQ**, QTHR. Ph. (074) 62 2596.

**Est. VFO (VFO \$20)**, suit Kenwood TS820/820S, perf. cond., \$130. **B. Bathols** VK3JUV, QTHR. Ph. (03) 90 6424.

**Edison Home Phonograph and 42 Cylinders**, will not separate, can arrange inspection in Melbourne, what offers? **H. Cliff** VK3KC, QTHR. Ph. (052) 52 1608.

**Argonaut 508 HF Tcvr.**, new cond., operates well, \$300; **Drake** comms Rk, SSR-1, \$200. Will deliver articles within Melbourne area, upon discussion, free of charge. **VK3CAQ**, Box 326, Laverton 3028.

**Kenwood TS120S**, new HF solid state Transceiver, with cooling fan, built-in protection for final transistor and English manual, \$880. **VK3SB**, QTHR. Ph. (03) 550 3521.

**Atlas 215X/NB** 160-15m, all solid state, C/W Atlas frequency display, crystal lock adaptor, mobile bracket and AC power supply, \$550; **Trio-Kenwood TS-820S** with CW filter and DC supply, \$850; **Icom IC-215** C/W nicad batteries and charger, \$170. **A. Nutley** VK2BNA. Ph. (02) 230 5122 Bus.

**FT101**, good working cond., bands 80, 40, 20, 15, 10, 8, 240V AC or 12V DC operation, complete with both sets of cords, mic. and manual, \$450. **ON0**, VK5JY, QTHR.

**Learning Morse Code?** New commercially printed book, excellent value, \$6.50 posted, with two C60 Morse cassettes. **K. Wilson**, VWA VK2 Education Service, PO Box 109, Toongabbie 2146.

**Yaesu FR100B-FL200B**, matched Rk-Tx, 250W PEP, just refurbished and re-valved, ex. cond., \$320; as new FL2100B linear, \$425, ON0; as new Y10100 monitorscope, ex. cond., \$260, ON0; **Oskelboc SWR 200 power/SWR meter**, 20/200/2,000, still in box, priced to sell, \$65; all with manuals. **VK6BG**, Box 40318, Casuarina 5792, NT. Ph. (089) 27 1895 A.H.

**Yaesu FTV550 6m Transverter**, as new, matches FT401 series equip., \$150. **VK5XX**, QTHR. Ph. (08) 71 9566.

**Unwanted Gift**, location limits usage, one Multi-Palm II complete, plus xalts, repeaters 4, 5, 7, 8, plus AC/DC to charger, offers. **VK2YN**, QTHR. Ph. (046) 67 1842.

**IC22S** with mobile mounting bracket and 2m 5/8 whip, \$300; **Barlow-Wadley XCR-30 Rk**, \$200. **R. Hollis**, 69 Spence St., Pt. Vernon 4655. Ph. (071) 28 2765.

**Swan 500C Tcvr**, 500W PEP input, 230 XC PS spkr., 508 external VFO Vx-2 Vox, \$350. **W. Bixler** VK4UY, 19 Simla St., Toowoomba 4750. Ph. (076) 32 9192.

**Belcom Liner 10 Transceiver**, 28.480-28.710 VKX, 10 kHz shift, continuous coverage, new, 2 mths. old, \$210; **Shure 401A** hand mic., new, \$32; **HC250** antenna coupler, new, \$75. **VK7NAB**, Ph. (003) 31 7914.

**Johnson Kilowatt Matchbox**, as new, includes SWR meter, \$200. **VK1HB**, QTHR. Ph. (062) 88 6062, (062) 55 5385 Bus.

**Beam Mosley TA33JR Tri-band**, buyer collect, \$100; speech processor, COX ampess audio type, \$30. **VK3WW**, QTHR. Ph. (03) 465 2991.

**Ten Tec 544 Transceiver**, with external power supply, as new cond., \$1,000. **Ralph VK6RD**, C/o 2, Hardy Street, Croydon Park 5008, SA, or Ph. (08) 46 6260.

**TS520S**, mint cond., 12 months old, \$600, ON0; **Gemtronics 332S**, converted to 10m, 20 kHz shift on clarifier, excellent mobile rig, \$115, ON0. **VK3NEX**, Ph. (03) 44 2651.

**Kenwood TS520S**, absolutely new, never used and in original package, selling because of illness, still in warranty, \$550. **17 William St**, Henley, via Gladesville 2111. Ph. (02) 89 2530.

## WANTED

**Most Clamp for Daiwa DR 7500S Rotator**, must be in v.g. cond. **Peter Ringell** VK3NVJ, Ph. (053) 39 2520.

**.005 pF or similar high voltage mica RF block** condenser, **VK3ACA**, QTHR. Ph. (03) 306 2069 A.H.

**Copy of instruction Manual for Tech TE-15 GDO**, will pay. **Nick Lock** VK4NXY, 250 Flanagan St., North Rockhampton 4701.

**Remote VFO**, external speaker, **Yaesu** antenna tuner, all for FT101E, and manual for FTDX 400, VK4QZ, 14 Alice St., Townsville, Q. 4814. Ph. (077) 79 9645.

**Any information or specifications for an AWA VHF Comm. Rk** type C59177; DCA type R-30, covering the aircraft band, **VK1NAM**, 21 Fossil St., Holder, ACT 2611.

**Galaxy Five**, working or not, **VK3NUJ**, 68 Edward St., Tamworth, Ph. (067) 65 5539 A.H.

**High Voltage HF Block Mica Capacitors**, 201 to 005 microF, also one six ft. standard PMG rack with base, **VK3ACA**, QTHR. Ph. (03) 306 2069.

**Reasonably priced new or secondhand microprocessor controlled CW/RTTY/ASCII generating keyboard**, with AFSK, for training members of "The Northern Territory Blind Assoc." to novice and AOCIP. Send details to **VK6BG**, Box 40318, Casuarina 5792, NT. Ph. (089) 27 1895 A.H.

**Donations of no longer required surplus equipment**, to aid, train and possibly equip, future blind operators from "The Northern Territory Blind Assoc.". Write to **VK6BG**, Darwin DX Working Group (NTBA), Box 40318, Casuarina 5792, NT, or Ph. (089) 27 1895 A.H.

**1 (one) Toyomura KP-12A RF Speech Processor**, will pay top price for one, must be 100 per cent cond. **VK7NOW**, Ph. (004) 26 1520.

**Valves**, type 6BE6, 6A05, 955, 1R18, 2C40, 2C39, 4468, old VHF UHF Rk/LX, old radar equipment. **VK2ZHS**, QTHR. Ph. (02) 59 5390.

**Keen Radio Amateurs** to attend NQ Convention, must be in good working order. Contact **VK4WIT**, QTHR.

**Hallicrafters HT33B or HT41 Linear Amplifier**. **John Wallace** VK3VV, QTHR. Ph. (054) 43 2803.

## TRADE HAMADS

**Are you on frequency?** Be on frequency with DSI. Full range of top quality counters up to 1500 MHz, 0.1 parts per million accuracy. **Quick-Kit 50** HC-50 MHz counter kits, 95 per cent assembled, 100 per cent tested, 12 months part warranty, AC or DC operation, 8 digits 1/2 inch LED, accuracy 1 part per million. Special introductory price \$135, incl. postage. Write for further info or check ads in American QST, Ham Radio, etc. Australian distributors **ATN Antennas**, Box 80, Birchbirch, Vic. 3483.

**Hard to Find Parts!** Air variable capacitors 40-310 pF, 7.5 kV, \$55 each; 60-800 pF, 4.5 kV, \$89 each; six position rotary switches, 13 kV flashover, 20A contact rating, \$49 each; all items brand new, limited quantity surplus purchase and offer cannot be repeated. Orders to **ECS**, PO Box 164, Geymore 2227. Ph. (02) 525 8203. P & P \$5, express refunded.

**QSL Cards, Log Books, Contact Sheets** — send 20c stamp for samples and prices to **Linda Luther** VK4VV, PO Box 498, Nambour, Qld. 4560.

**Are you on frequency?** Be on frequency with DSI, full range of top quality counters to 1500 MHz, 0.1 part per million accuracy; **Quick-Kit 50** Hz to 550 MHz counter kit, 95 per cent assembled, 100 per cent tested, 12 months part warranty, AC or DC operation, 8 digit 1/2 inch LED, accuracy 1 part per million; introductory price, \$135, incl. postage.

Write for further info or check ads in American QST, Ham Radio, etc.; Australian distributor **ATN Antennas**, Box 80, Birchbirch, Vic. 3483. Ph. (054) 82 3211, ask for 254.

**Rates:** \$10 for 4 lines, plus \$2 per line or part of line if exceeding 4 lines — prepayable.

## TRADE HAMADS

For a very long time commercial advertising has not been accepted in AR Hamads, but as the result of discussions at the 1978 Federal Convention a decision was made to open up a "Hamads-Trade" section. The rate will be \$10 for 4 lines plus \$2 per line (or part thereof), minimum charge \$10, prepayable. Copy is required by the first day of the month preceding publication. This will mean that in future ordinary Hamads submitted from members who are deemed to be in the general electronics retail and wholesale distributive trades should be certified as referring only to private articles not being re-sold for merchandising purposes. ■

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# OBITUARY

**ARTHUR INGHAM BERRY** VK3CZ

It is with deep regret that we record the passing of Arthur, who died on 11th May after suffering a stroke on Easter Saturday. We wish to express sincere sympathy to his wife, Margaret, and their family.

Arthur received his licence in 1930, and was a very active "ham", mainly on CW. In later years he concentrated on DX on the 160m band — and earned the ARRL's DX CC.

In addition to "ham" radio he had a vast general knowledge and was vitally interested in music; he was a fine violinist. He was educated at Scotch College and Melbourne University, where he was one of the first to receive a Degree in Architecture. He was an expert in reinforced concrete and construction.

For many years he has lived at East Warburton, farming part-time and also working as a Consultant for the Melbourne City Council in connection with Uniform Building Regulations—another field in which he was expert.

Arthur was a man of great integrity, he had a wonderful personality, and was a true friend who will be sadly missed.

Contributed by Athol Pritchard VK3CP (a close friend for 50 years).

**FREDERICK GEORGE BAIL VK3YS**  
Although Fred began his days in the workforce as a carpenter, another interest, wireless, had captivated him. By 1930, at age 20, he had obtained an amateur licence and when war broke out it was his knowledge of radio communications rather than his trade that was needed. Initially he was an instructor at the Ballarat Radio School with the rank of Warrant Officer. Later he was transferred to 82 Fighter Squadron and served with this unit until the war ended.

Fred and his brother, Jim VK3ABA, returned to the building industry but the lure of electronics was strong and Fred was soon installing and servicing Hi-Fi and radio sets. After graduating at the Marconi School of Wireless, Fred turned his attention to TV when it arrived in 1958.

Although active on all HF bands, VHF had a special fascination for Fred, particularly 166 MHz and later 144 MHz. Many happy hours were had operating portable on these and other frequencies. Mobile operation in his diesel engine cars became another feature of his activities.

In 1954 he became Federal Councillor for the Victorian Division of the WIA and served in many other capacities in the following years—Secretary 1955-56, President 1957-58, and Vice-President 1959 to 1962. For a number of years he relayed the Sunday Broadcast on 144 MHz and conducted a slow movie practice on Sunday evenings on 3.55 MHz. During his term as President, the Division and VK3WI were established in Victoria Parade.

In 1961 Fred visited Japan and made contact with several electronic manufacturers. He brought back with him a 20W SSB transceiver made by Yaesu. A 100W version became available very shortly after and Fred and Jim launched a small enterprise that developed into one of Australia's largest suppliers of amateur equipment—Bail Electronic Services.

Fred has been a frequent visitor to country and interstate areas, firstly as a member of the Victorian Division and later with trade displays.

In spite of an obviously busy life he found time to encourage youngsters who showed interest in the hobby that had given him so much pleasure. Quite a few amateurs have gained their licence because of "Uncle" Fred's interest and assistance.

Fred died suddenly on 26th May. To his wife, Gladys, and his brother, Jim, we extend our sincere sympathy.

(VK3AFW)

#### VALE

**MARY CLARA WILLIAMS BLACK**  
With the sad passing of Mary Black at Springwood, NSW, on 13th May, amateur radio lost a supporter of long standing.

A lady of much charm and many talents, the Minister delivering the eulogy at her cremation amongst other facts, described her as the mother of the WIA's Youth Radio Scheme.

Her husband, Rex VK2YA, for over two decades had worked unceasingly to ensure his "brain child", the YRS, was firmly es-

tablished and later was to play a prominent part in the ultimate granting of the Novice licence.

During this time Mary not only supplied moral support but assisted directly with the multitude of duties, letter writing, certificate issuing, entertainment, etc. She could clearly appreciate Rex's aims and often provided a guiding hand, needed during the difficult periods in the establishment of any scheme.

Amateurs throughout Australia extend their deepest sympathy to Rex on the loss of a wife and to his family on the loss of a mother.

By Bill Moore VK2HZ.

**JOHN R. MOYLE VK2OZ**  
John, well known in many States, died on April 5, 1979, quite suddenly.

In the early 30s he first operated from Laurel Hill, near Batlow, as VK2EZ. No power was available so 135V of "B" batteries powered the HT, and quite a potent signal.

His career was varied—he joined the RAAF, became VK2EZ, returned to civilian life, and rejoined the RAAF early in WWII, to be discharged as a Squadron Leader, Signals.

Having obtained a commercial ticket, he flew with Qantas as a wireless operator in DH66s and Flying Boats.

Around 1950 he moved to WA and as VK2EZ was very active on the HF bands. He served with the Department of Air and B/C stations for many years.

On his retirement, just over six years ago, he returned to NSW to operate as VK2OZ. An unassuming man, willing to help anyone with a problem, he will be remembered for his generosity in providing the elusive component from a "junk" box of incredible proportions. An ardent supporter of the WIA and OCWA, John enjoyed nothing better than to yarn to his fellow amateurs at the monthly informal "forums" at Palm Beach.

To his twin daughters, Louise and Shirley, both in WA, amateurs extend their sympathy.

Unfortunately his wife predeceased him some years ago.

By Bill Moore VK2HZ.

**MERVYN LAURENCE CONWAY VK7CL**  
Mervyn Conway died on April 2nd, 1979, after a long illness, being active on the air until a month before his death. First licensed in March 1936 as VK7CL, Merv was an active amateur throughout the last 40 years of advances in radio technology. An early experimenter and home brewer, Merv took particular delight in working up a circuit from first principles and making it work as a consequence of the theory rather than in spite of it. Amateurs in many parts of the world will miss his exemplary operating technique and the friendly help he gave to operators whose mother tongue was not English.

Unmarried and a teacher for 40 years, his influence on several generations of students was great not only in the classroom but also because of the time he gave his students in such extra-curricular activities as swimming, bush-walking and hobby interests; many amateurs owe their initial spark to him.

One aspect not widely known about Merv was his quiet but practical generosity to the disadvantaged and the underprivileged. His friendship and caring concern will be remembered not only by those who knew him well, but also by many in New Guinea and the Pacific who partook of his unselfish hospitality.

From S. Giudici VK7SO.

## SILENT KEYS

It is with deep regret that we record the passing of—

Mr. J. C. BACHLER	VK7JB
Mr. F. G. BAIL	VK3YS
Mr. M. BARRY-COTTER	VK2SX
Mr. M. J. MacGAVIN	L30810
Mr. A. I. BERRY	VK3CZ
Dr. R. M. IRWIN	VK4FI
Mr. M. L. CONWAY	VK7CL
Mr. H. J. W. HALL	VK3EK

### CLIFF EVANS K6BX-5K HAM EXTRAORDINARY

Almost everyone who has any interest in DX or International Awards Programmes will have heard, by now, of the death on 30-3-79 of Cliff Evans K6BX—the Old Man as he was known to Hams in almost every corner of the world. This outstanding and controversial character was a Ham for 65 years and, at one time or another, held calls from some two dozen countries spread around the globe. In all, he used over 40 different prefixes.

After retiring from the Navy with the rank of Commander, where he was for twenty-three years a naval aviator, he finally settled in Bonita in South California. Here, amongst many other activities, he proceeded to create the biggest Awards Programme that Hamdom has ever seen and is likely to see. His CHC (Certificate Hunters' Club) has Chapters in over one hundred countries. He also established a large FHC (Flying Hams' Club), the IARUS (International AR Journalistic Society), etc. On the journalistic and editorial side, he produced quarterly the BIG "D" (a directory of awards) and the EXTRA NL. He also wrote countless articles on every subject pertaining to AR.

Besides the CHC and FHC Awards Programmes, he adopted the role of one of AR's most vocal critics. He voiced his opinions of any one, body or group, via his newsletter THE EXTRA, in a blunt and forceful journalistic style—naturally, these public comments and exposures were received unfavourably by many. However, his fan mail never diminished and the various Chapters of CHC, in most countries, yearly increased in membership.

Your scribe here corresponded with the Old Man for over fifteen years, mostly on matters pertaining to awards. It is impossible to know anyone this long, even through correspondence, and not begin to know the real Cliff Evans. Like all of us, he had his "warts", but under that rather blunt assertive exterior there were several soft spots—one being his concern about the charitable attitude to AR's "limping men". It was part of his programme that any blind, handicapped, or permanently ill Ham could participate in the Awards Programme with no monetary cost whatsoever; and he saw to it that as many as possible received free magazines and call books, etc.

Together with AR and a distinguished naval career, he found time to take degrees in Political Science, Radio Engineering, Psychology and was a member of the USA Journalistic Society, vizi, Sigma Delta Chi.

He was a man of outstanding ability and had a driving force that enabled him to achieve the work of three men in his lifetime. As long as AR remains as it is, the call Cliff Evans K6BX will be permanently part of it.

A. Shawsmit VK4SS.

# Sideband Electronics Sales



## KENWOOD

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TR-7600 2.4 FM digital transceiver 800 CH.  
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VB-2200-A. Power booster for TR-2200  
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PS-20  
MB-100  
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SP-8 Regulated Power supply 8.Amps  
VFO. 520-S External VFO for 520-S  
VFO. 820 - External VFO for 820-S  
VFO. 700-S External VFO for TS-700-SP  
SM-220 Station monitor  
BS-8 and BS-5 PAN adaptor  
SP-820 Deluxe Speaker consul  
SP-520 Speaker consul  
SP-70 Speaker consul for TS-700 & 600  
VOX-3 Vox unit for TS-700 & TS-600  
DS-1-A DC converter for 520-S & 820-S  
DG-5 External digital display TS-520-S  
AT-200 Antenna coupler  
MC-30-S Microphone 500 OHM  
MC-35-S Microphone 50. K. OHM  
MC-10 Microphone 50. K. OHM.  
MC-50 Deluxe desk Microphone dual imp  
HC-2 Deluxe Ham clock  
YG-68 CW. filter for TS-820  
YC-3395 CW filter for TS-520  
LA-30-A Lowpass filter  
HS-5 Headphone  
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RD-15 Dummy load 450 MHZ. 15. Watts  
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